

# SOCIO ECONOMIC CORRELATES OF BATAM TRADE LIBERALIZATION ZONE, BATAM ISLAND, INDONESIA

Romulo Sinabutar

**ABSTRACT:** *The researches conduct to assess the relationship between profile of respondents and economic resources, socio economic contributions and observed negative consequences of Batam TLZ. It aims to determine the policy guidelines further to enhance of its socio-economic development.*

*Factor analysis was done on relevant data and on questionnaire items in terms of distribution of respondents by frequency, cross tabulation; analysis of variable's relationship and interpretation of data by using Pearson's Chi-square test. Obtained values were tested against significant level of 0.05.*

**Keywords:** *Sijori, Competitive advantages, Socio economic development, cluster, Pierson's Chi-square, and Correlation test.*

## INTRODUCTION

The best simple characterization of the international economic system is the world liberal (Pomfret: 1997). Starting in the 1980, Salvatore (1998: 347-348) and Mikic (1988: 413) stated that many developing nations that had earlier followed an import substitution industrialization (ISI) strategy began to liberalize trade and adopted an outward orientation.

The establishment of Batam Trade Liberalization Zone (Romero: 1997) has usually significant benefits in attract foreign direct investment, increasing export value and volume, foreign exchange earnings, and employment generation. There is also the expectation that the production technologies and organizational know-how introduced by foreign investors would contribute to the upgrading of workers' skills. In addition, the type of industries, which were attracted to Batam TLZ, was labor-intensive in nature. Finally, it would have a demonstration effect on indigenous firms and that the fostering of linkages between foreign and local enterprises would facilitate positive technological spillovers.

Today, the growth triangle scheme, the geographic manifestation of export-led industrialization, seems, to live up to this promise in Batam. In Batam, the Rp 61.03 trillion (approximately US\$ 6.77 billion) non-oil and gas export value in 2000 which contributed more than 14 percent of Indonesian exports was more than nine times greater than the Rp 7.08 trillion (approximately US\$ 0.8 billion) Gross Domestic Regional Product (GRDP) of the island. In addition, the freight-on-board export value has grown from US\$ 3.32 billion in 1996 to more than US\$ 5 billion in 2000, showing a solid exponential annual average

growth rate of 20.07 percent. The growth rate is even higher if visitors' spending in Batam is taken into account, yielding total foreign exchange revenue was more than US\$ 7 billion in 2000. Indeed, Batam left the rest of Indonesia in pursuing trade liberalization (BIDA: 2000).

Despite the economic crisis in Asia Pacific, Batam has managed to obtain additional new foreign investment. The relative size of foreign direct investment with respect to total investment, 35.18 percent, is much greater than the approximately 12 percent in Indonesia as a whole. During 2000, US\$ 486 million was invested, an increase of 21 percent over 1999. With this amount, the accumulative total foreign investment in Batam has reached US\$ 2.818 million.

Based on Presidential decrees No. 74, 1971 and No. 41, 1980, Batam Industrial Development Authority (BIDA) had been determined as bonded zone since 1971. According to Ismeth Abdullah (BIDA: 2001), Batam Island in its development has technically become and has functioned as a trade liberalization zone. High export growth rates had been cited as the main reason for the island's high-income growth. With a growth rate of more than 25 percent per year (i.e. at least in the last five years), Batam now boasts of highest income per capita in Indonesia.

## **THE ORETICAL FRAMEWORK**

Theoretical framework is adopted from Porter's model theory of competitive advantages. Porter (1995) stated that competitive advantage involves company strength and weakness, industry opportunity and threats, personal value of the key managers, and broader societal expectations in terms of government policy, social concerns, and evolving mores. Competitive advantage aims to establish a profitable and sustainable position against the forces.

Furthermore, he identified the three fundamental approaches in two dimensions of strategy target and strategy advantage, these are: cost leadership, differentiation, and focus. Cost leadership is offering customers a low price than competitors. Differentiate is a strategy that involves offering a product which is different from other competitors. This strategy is support by investment in innovation, specially research, product development, and good communication program. Focus is a strategy that works through concentrating the firms' efforts on the interest of narrow group of customers.

## THE CONCEPTUAL FRAMEWORK

The conceptual framework is adopted based on theoretical of competitive advantages of Porter's model. In this concept (Bartlett: 2000), attributes such as factor conditions, demand conditions, related and supporting industries, and firm strategies and structures in the playing field that nations like Indonesia establishes and operates for its industries are considered. John Kay (Wickham: 2001) mentions the sources of competitive advantages from costs, knowledge, relationships, and structural.

The linkage process shown in Figure 1 outlines the substantive concerns of the study, which is the relationship between trade liberalization zone that embraces economic resources, its socio-economic contribution, observed negative consequences, and the policy recommendation to enhance socio-economic development of Batam Island, Indonesia.

There are three blocks in Figure 2, which are a) INPUT; b) PROCESS; and c) OUTPUT. The INPUT block includes selected profile of respondents; economic resources; socio-economic contribution; and observed negative consequences. The key objective of the OUTPUT will be the policy recommendation to enhance socio-economic development of Batam.

## TREATMENT OF RESEARCH AND DATA

The data were analyzed with multivariate or Chi-square statistical techniques. The regression analysis and correlations were also employed as required by the framework of the study. The framework calls for the simultaneous analysis of the main effects of the selected profile of residents on the economic resources, socio-economic contribution and other consequence of the Batam TLZ.

### Formulas Employed

#### 1. Percentage

$$\text{Formula: } \% = \frac{n}{N} \times 100$$

Where: % = Per cent occurrence

n = the number of occurrence

N = Total number of population

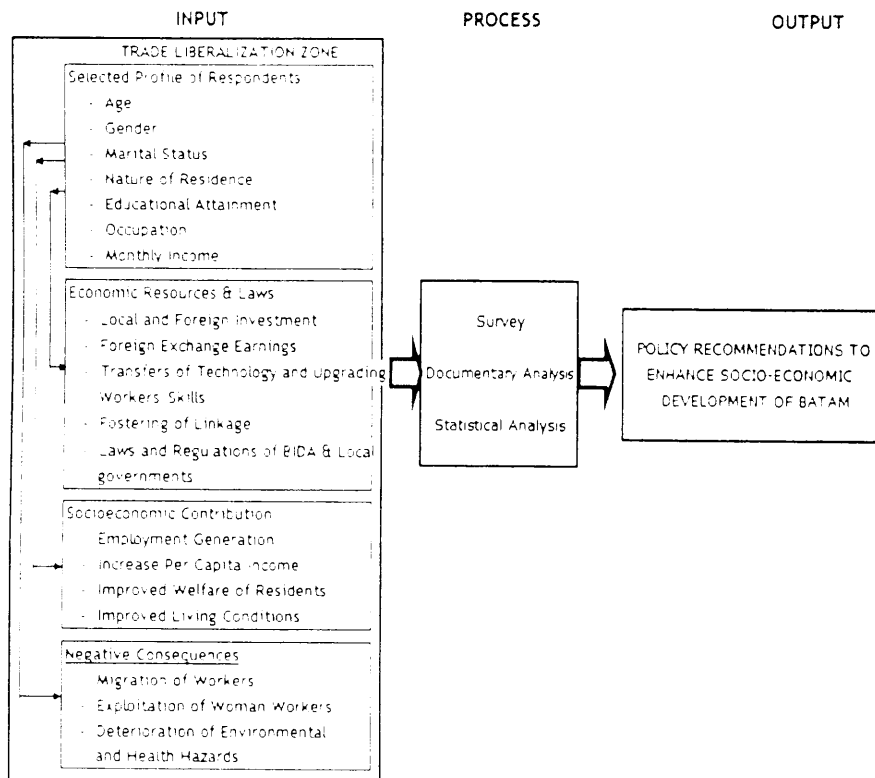


FIGURE 1: CONCEPTUAL FRAMEWORK

This was applied to show the frequency distribution of the respondents, revealing their breakdown in terms of the profile variables.

## 2. Weighted Mean

$$\text{Formula: } X = \sum wf / N$$

Where:  $X$  = weighted mean

$\sum$  = Summation of

$w$  = weight

$f$  = frequency

$N$  = total number of respondents

This was applied to describe the respondents' assessment of the trade liberalization zone in terms of economic resources, socio-economic contribution and other consequences.

## 3. Standard Deviation

$$\text{Formula: } SD = \frac{\sum (X - \bar{X})^2}{N - 1}$$

Where: X = Individual observation  
 X = Weighted mean  
 N = Total number of respondents

This statistical tool was an aid to find out the spread data values of variables such as profile of respondents, economic resources, socio-economic contribution, and negative consequences.

#### 4. Pearson's Chi-Square

The computer software program developed for analysis and the hypothesis testing known as Statistical Package for the Social Science (SPSS) was employed.

This study utilize frequency table to analyze the results. The examination of the various rows and column in a cross tabulation is a useful first step in studying the relationship between variables without testing of the relationship. For this reason, this study used a special analytical technique called the Pearson's Chi-square test of independence to test the hypothesis that variables are dependent or independent to each other and to gain additional insight. To further validate the analysis from the Chi-square test, this study used a correlation test called "Pearson's Correlation" to analyze and to reach the conclusions about the significance level of relationship between two variables. Formula Chi-square test on independent variables is as follows:

$$\text{Formula: } \chi^2 = \sum \sum \left\{ \frac{(O - E)^2}{E} \right\}$$

Where:  $\chi^2$  = Statistics value bases on Chi-square  
 O = Observation count  
 E = Expected count

The correlation between two variables can be computed using the equation (Paler and Calmorin: 1995):

$$r = \frac{N (\sum xy) - (\sum x) (\sum y)}{\sqrt{N (\sum x^2) - (\sum x)^2} \times \sqrt{n (\sum y^2) - (\sum y)^2}}$$

Where:  $\sum x$  = sum of test x  
 $\sum Y$  = sum of test y  
 $\sum xy$  = sum of the product of x and y  
 $\sum x^2$  = sum of squared x score  
 $\sum y^2$  = sum of squared y score  
r = coefficient of correlation  
n = total population

## 6. Tabular Data

In this study the various statistical analyses to be made will produce the following minimum tabular data:

- a. Unit of analysis where test of hypothesis was made, the individuals were the unit of analysis. Given this unit of analysis, great care was exerted against the occurrence of serious problem of ecological fallacy.
- b. Level of significance, for any test of hypothesis conducted, the 5% or 0.05 level of significance was used.

## SYNTHESES

The research study on literature dealing with trade liberalization zone presented the methodology and findings or results, which focused on aspects, involved in the socio economic impacts. Taking into consideration the various research works of these authors and the variables required to comprehend the impact of trade liberalization zone, the policy guideline for Batam Trade Liberalization Zone becomes imperative.

The present study highlighted the extent of the implementation of the BIDA in the fast developing industrial trade zone and hopes to capture the essence of these variables in relation to the practical policy required by investors and society desiring to enhance the socio economic development of Batam.

## PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA

### *I. Demographic Profile of Respondents*

#### 1. Age

The mean age of the respondents is 26.72, which is under 26 – 35 age group, and standard deviation is 7.212. The youngest and the oldest are 18 and 55 years old, respectively. The mean connotes that the worker-respondent is in the prime age. If midlife is between 36 and 40 years, this means that the average respondent is lower than middle

age. Majority of the respondents (51.0%) or 199 were in the ranges of 20 – 25 years followed by respondents who were in the ranges of 26 – 35 years or (31.0%).

## 2. Gender

The profile in terms of gender stated that majority of the respondents (62.3%) are females while 37.7 percent are males. These findings support the generalization that trade liberalization zone workers are typically females (BIDA: 2001). But, this also connotes that there is a growing number of males who are engaged in manufacturing activities.

## 3. Marital Status

As to marital status, 245 or 62.8 percent of the resident-respondents were single at the time this study was done while 145 or 37.2 percent were married. These findings indicate that trade liberalization zone workers are typically unmarried. But this also connotes that there is a growing number of respondents with married status.

## 4. Nature of Residence

About 51.8 percent or 202 of the respondents are permanent residents in the Batam area, while 48.2 percent or 188 are temporary. Data on the nature of residence showed that 23.1 percent respondents lived in their own house, 36.7 percent were renting a place with either co-worker of a family and the remaining 17.7 percent shared with relatives, while those who lived in the company housing and dormitory constitute 22.5 percent of the respondents.

## 5. Educational Attainment

Only 17.7 percent or 69 of the respondents were university degree holders, while 93 or 23.8 percent entered academies (diploma level), the vocational (equivalent to high school) 6.7 percent or 26 and the others as majority of respondents had reached high school (51.8%).

## 6. Occupation

Majority of respondents were employed in foreign companies (165 or 42.3%). This is followed by respondents who are employed in local companies (113 or 29.0%). The remaining respondents are employed in government (54 or 13.8%); entrepreneurs (29 or 7.4%); professional (25 or 6.4%); and taxi drivers (4 or 1.0%).

## 7. Monthly Income

The distribution of the respondents in terms of regular monthly income only 9 (2.4%) of the respondents are receiving monthly income of Rp 10 million and above. Two hundred fifty nine (66.4%) of respondents have monthly income that fall within the range of Rp 1, 0 to 2, 5 million. The lowest monthly income is Rp 570 thousand and the highest is Rp 25 million. The weighted mean of respondents' income is Rp 2,486,782. The mean indicates that a bigger number of respondents have low income.

## II. BIDA Economic Resources and Laws

### 1. Foreign and Local Investment

Table 1 presents the level of investment of fully operational trade liberalization zone of Batam (BTLZ), Riau province, Indonesia. It shows the average growth rate of investments by government, domestic, and foreign were 13.52, 8.62, and 13.41 respectively. And the average growth rate of total investment from 1991 to 2000 was 10.55 percent annually.

Table 1  
Investment Level of Batam TLZ Understudy  
(In US\$ Million)

Year	Government Investment	Domestic Investment	Foreign Investment	Total Investment
1991	629	1,597	1,055	3,281
1992	681	2,033	1,088	3,802
1993	743	2,134	1,648	4,525
1994	859	2,296	1,873	5,028
1995	1,205	2,532	1,916	5,653
1996	1,427	2,610	2,094	6,131
1997	1,513	2,916	2,145	6,574
1998	1,578	2,921	2,245	6,744
1999	1,626	3,019	2,332	6,977
2000	1,897	3,295	2,818	8,010
Growth Rate	13.52	8.62	13.41	10.55

Source: BIDA, 2001



As shown in this table, the level of investment from 1991 to 1995 is gradually fluctuating and then decrease up to the bottom level on 1998 due to economic crisis of Indonesia but suddenly increase on 2000 due to self confidence of investors to Indonesian government for handling of its economic crisis.

## 2. Foreign Exchange Earnings

In Table 2, the total export value for 10 years period (1991 – 2000) depicts an upward trend except in 1998. Looking on the gross export values and the foreign visitors spending in Batam trade zone, it shows remarkable dollar earnings.

Table 2  
Foreign Exchange Earnings of Batam  
For the Period: 1991 – 2000 (in USS million)

Year	Export Value	Foreign Spending	Total Revenue	Total Import	Net Earning	Percentage
1991	242.00	175.20	417.20	83.40	333.80	80.0
1992	564.50	238.00	802.50	191.48	611.02	76.1
1993	925.70	249.80	1,175.50	318.58	856.92	72.9
1994	1,388.90	320.06	1,708.96	480.12	1,228.84	71.9
1995	2,362.00	353.93	2,715.93	811.47	1,904.46	70.1
1996	3,033.50	406.96	3,440.46	1,057.93	2,382.53	69.3
1997	4,885.10	405.60	5,290.70	1,682.66	3,608.04	68.2
1998	4,726.20	421.58	5,147.78	1,681.15	3,466.63	67.3
1999	4,807.30	478.44	5,285.74	1,693.38	3,592.36	67.9
2000	6,770.00	413.45	7,183.45	2,348.38	4,835.07	67.3
AGR	49.57	10.89	41.05	80.49	37.95	

Sources: BIDA, BPS, 2001

Foreign Spending: Total foreign visitors x average spending per day  
per person x average length of stay (2.1 days)

Legend: AGR = Average Growth Rate

In terms of average growth rate, export value is 49.57 percent, foreign spending is 10.89 percent, and import value is 80.49 percent. The AGR of net earnings of 37.95 percent is slightly lower than the AGR of total revenue of 41.05 percent annually.

## 3. Transfer of Technology and Upgrading Worker's Skills

In a survey of 390 resident-respondents, there are 197 (50.51%) have attended seminar or in-house training conducted by their company in which most of them (69%)

attended for corporate orientation program, while 3.85 percent or 15 respondents attended training conducted by other company. A total of 127 (32.56%) respondents had never attended any training programs or seminars. To improve the employee's skills, some of them (51 or 13.08%) jointed seminar or training regionally or abroad, which are sponsored by the company where they worked.

In terms of foreign workers to assistance the local technicians. It's shown that foreign workers are never and seldom assist the local technician in set up and implement of production system. There are 161 (41.3%) of respondents stated that foreign workers are nothing to do in terms of transfer of technology. While in product innovation, it was consist of 43.3 percent.

#### 4. Fostering of Linkage

The types of local business established with foreign investors linkages are supplier, contractor, sub-contractor, and consultant of services. In terms of business activities, foreign investors offer to the local enterprises are the supply of sub-material products (46.2%), services (34.4%), and office supply (25.1%).

Local raw material consumption level as used in the company is either 50 percent and above or 5 percent and below, while the local sub-material consumptions level are more than 50 percent.

#### 5. Laws and Regulation of BIDA and Local Government

Overall supervision and management of Batam trade zone is vested on the BIDA. Based on the Presidential decree No. 74, 1971, BIDA shall have the following powers and functions: operate, administer, manage and develop Batam area. BIDA in its functions in planning, executing, and managing the development of Batam area, is envisioned to enhance industrial development and livelihood generation and to improve the quality of life of its people.

### **III. BIDA SOCIO-ECONOMIC CONTRIBUTIONS**

#### 1. Employment Generation

By the year-end 2000, Batam Trade Liberalization Zone had 400 locators, which employed 157,283 workers. The total of workforce for the period 1991 – 2000 is presented in Table 3. As shown in the table, the average growth rate of employment both domestic and foreign in Batam is 27.22 percent and 23.17 percent, respectively. It is higher than AGR 17.27 percent of total population. From the survey data of Batam ecozone included in this study,

majority of the workforce are females. Most female workers inside the zone are concentrated in the light and medium type of industries like electronics and plastics. In contrast, more males are found in the medium and heavy type of industries like based metal and metal goods. Survey data also show that majority of the workers are young: more than 50 percent of all workers belongs to the 20 – 25 years old age bracket and more than 60 percent of the workers are also unmarried. Of the total population of 462,528 for the year 2000, the total workforce is 157,213 (34%). The operation of Batam trade liberalization zone has reduced the unemployment rate of the Riau province particularly and Indonesia in general.

Table 3  
No. of Employment of Batam Trade Zone  
For the Period: 1991 – 2000

Year	Domestic	Foreign	Total
1991	22,942	295	23,237
1992	31,644	427	32,071
1993	64,643	460	65,103
1994	104,028	816	104,844
1995	117,156	993	118,149
1996	126,311	1,097	127,408
1997	135,858	1,243	137,101
1998	139,986	1,290	141,276
1999	148,247	1,559	149,806
2000	155,591	1,692	157,283
AGR	27.22	23.17	27.08

Source: BIDA, 2001

## 2. Increase Per Capita Income

Table 4 presents the regional per capita income of Batam from 1996 to 2000. As shown, the growth rate of net regional domestic product (NRDP) is 25.87 percent and the growth rate of regional per capita income increased by 6.19 percent annually. The per capita income of Batam was less in growth due to high growth rate of population (17.27%) and high capital reduction or depreciation (10.41%).

In 2000, more than 85 percent of respondents earned monthly income exceeded the Batam regional per capita income. Since most of respondents are residents-permanent, it is

important to know that 51.8 percent of Batam residents were significantly affect the socioeconomic development of Batam.

Table 4  
Regional per Capita Income of Batam

Year	GRDP in Rp Billion	Depre- ciation	NRDP in Rp Billion	Population	Per Capita Income (000)
1996	2,628.7	73.1	2,442.1	247,958	11,739
1997	3,470.9	246.8	3,068.0	255,179	12,121
1998	5,263.9	554.6	4,046.4	293,700	16,650
1999	5,899.0	610.6	5,094.4	358,700	16,083
2000	7,082.2	773.0	6,116.1	462,528	14,083
AGR			25.87	17.27	6.19

Source: Bureau of Statistic, Batam

### 3. Improved Welfare of Residents

There are an increasing number of school facilities in the Batam area. Likewise, the number of pupils has gone up from 1995 to 2000. Except for the hospital, the other health facilities increased in number during the three-year period (1998 – 2000). Further more, place for religious worship grew in number, particularly the presence of mosques in the trade zone. However, the number of physicians and other medical/ dental personnel is not enough for the total population. A decrease in the number of physicians (from 51 to 41) for the year 1998 – 2000 can be noted. Medical practitioners serve the needs of the population.

### 4. Improved Living Conditions

The positive social impacts in the establishment and operation of economic zones are the improvement and expansion of physical infrastructure support facilities in the area to assist the industrial activities of locators inside the zone. These include roads, power, water, ports, and communication facilities.

In order to attract export manufacturers, there was a need to improve on the energy, transportation, communication, water and construction needs of Batam area. The government spent billions of dollars in ventures just to achieve this. The government

expenditures alone for the physical and social infrastructure of Batam trade zone including reservoirs and water treatment plant were roughly US\$ 3.30 billions (BIDA: 2001).

#### **IV. THE ASSESSMENT OF BATAM TRADE LIBERALIZATION ZONE**

##### **4.1. Batam Trade Zone based on Economic Resources**

Overall, good or moderate improvement is the average rating given by respondents to Batam trade zone development in terms of economic resources and laws. BIDA respondents claimed that the development of Batam economic resources was moderately improved in terms of foreign and local investment. This was gleaned from their overall weighted mean of 3.32.

“Good” expression is the average rating given by respondents on the improvement of economic resources in terms of foreign exchange earnings. It showed the average weighted mean of 2.89. The foreign currency reserve fund has utilized by government for socio-economic development in terms of welfare residents improvement (WM = 3.10):

In terms of fostering of linkage, the BIDA respondents claimed the improvement of economic resources with average weighted mean of 3.15. Business linkage of different enterprises will improve the regional social development such as life condition changes toward materially and spiritually better, quality of human relationship, services in health, education and quality of life (WM = 3.11).

In terms of laws and regulation of BIDA and local government, the average rating given by respondents is “Good” or moderate improvement based on the average weighted mean of 3.04. In terms of investment procedures, BIDA assured to gives consistently that all investment application will take no more than 20 working days to attain approval (WM = 2.49).

##### **4.2. Batam Trade Zone based on Socio Economic Contribution**

Overall, good or moderate improvement is the average rating given by respondents in terms of socio-economic contribution. On the basis of the foregoing findings, it was achieving to great extent socio-economic contribution of providing development that is government in attitude, investors in perspective and Batam in caliber.

Going over assessment on employment generation, it can be seen that the respondents on the aforementioned variable recorded an average weighted mean of 4.10.

This indicates that Batam trade zone is very good improvement as regards accomplishment of its socio-economic contribution in terms of employment generation.

“Good” assessment is average rating given by respondents to the socio economic contribution in terms of per capita income. This was gleamed from overall weighted mean of 3.01. The increase per capita income is 3.20 and generate of foreign exchange reserve is 2.82.

In terms of welfare residents’, respondents’ assessment shows “good” improvement based on average weighted mean of 3.06. This assessment supported by transfer of technology and upgrading of workers’ skills (WM = 3.07); promote and improve product specialization (WM = 2.97); increase consumer satisfaction (WM = 2.66); and product stimulation (WM = 3.52).

“Good” expression also given by respondents’ assessment in terms of living condition improvement. The average weighted mean is 3.13. Improved living condition (WM = 3.14); Physical infrastructure development (water, power, etc.) (WM = 2.96); Improved telecommunication and transformation (WM = 3.52); and Smooth of traffic flow (WM = 2.89).

## **V. OBSERVED OTHER CONSEQUENCES**

### **1. Migration of Workers**

A striking characteristic of the workers inside Batam TLZ is the high proportion of migrants. Almost half of the respondents (46%) came from Java (Jakarta: west, central, and east Java), 42 percent from Sumatra (north and west Sumatra), and the remaining 12 percent came from other part of Indonesia like Sulawesi, Borneo, Maluku, West Timor, etc.

This population growth is estimated to have been increasing at an annual rate of 17.62 percent, with migration at 13.72 percent and birth rate at 2.87 percent (Romulo: 2001). The growth rate’s shown at more than 10 percent annually for the period of 1991 to 2000, except in 1997, which was 2.91 percent. The 1997 condition indicates Batam’s low employment turn over. Summary show that observed other consequences was expected moderate improvement in terms of migration of workers. It recorded an average weighted mean of 3.15.

### **2. Exploitation of Women Workers**

In 2000, data from BIDA show that 53 percent of workers are females. From the survey data similar findings is likewise shown. Women are preferred as workers for most

factory jobs, since their productivity in these jobs is higher than the men. Women are easily shifted from one type of subordination to another (Lachica: 2001). But in spite of the above-mentioned qualities, women workers do experience being discriminated upon and exploited because of their gender. In terms of exploitation of woman workers, BIDA respondents emerge “good” expression based on an average weighted mean of 2.81.

### 3. Deterioration of Environmental and Health Hazards

#### 3.1. Environment Hazard

Among the internal cost of industrialization is the destruction of forest reserves. The destruction of forest reserves has also caused extinction of rare animals and species like leopards. The denudation of forest has also triggered erosion and also leads to the dilation of the water system near the forest (Lachica: 2000).

Another negative effect to the environment of industrialization was the toxic waste generated by industries and air pollution. In Batam, this researcher randomly surveyed residents in five different districts. More than one hundreds forty respondents assured that the number one negative implication of Batam trade zone is the destruction of environment such as toxic waste generated by the industries, air pollution, flooding, poor garbage collection and landslides.

#### 3.2. Health Hazard

“Fair” is respondents’ assessment for other consequences in terms of deterioration of environmental and health hazards. It showed an average weighted mean of 2.45.

The top three ailments of the respondents are migraine headaches, stomach sickness, and fever. This table also indicates that those people who work in local (16.13%) and foreign companies (61.29%) are more prone to stomach ailment. In addition, the electronic industries’ exposure to carbon monoxide makes them tired and drowsy.

The summary assessment of respondents in terms of economic resources and laws, socio-economic contribution, and other consequences of Batam trade zone development reveals that Batam trade zone was perceived to be good or moderate improvement in terms of economic resources and laws based on the recorded average weighted mean of 3.09. This is also true with regards to socio-economic contribution as indicated by the average weighted mean of 3.25. In terms of minimization of other consequences, respondents consider it as 2.80.

## **VI. TEST FOR SIGNIFICANCE OF RELATIONSHIP OF THE VARIABLES**

### **6.1. Relationship between Economic Resources and Profile of Respondents**

In the summary chi-square test shows that there are no significant relationships between the respondents' assessment of the economic resources and laws of BIDA and respondents' profile variables in terms of age, gender, marital status and educational attainment. However, significant relationships exist between respondents' assessment when compared in terms of their nature of residence, occupation, and monthly income.

The test shows that the computed chi-square values for the first 4 (four) profile variables are lower than the tabular value. For the last 3 (three) profile variables, the computed chi-square values exceed the tabular values.

### **6.2. Relationship between Respondents' Assessment of Socio-Economic Contribution and their Profile**

The summary of chi-square test between respondent' assessment of socio economic contribution and profile of respondents provided that there is no significant relationship between the respondents' assessment of the socioeconomic contribution of BIDA and respondents profile variables in terms of age, gender, marital status, educational attainment, and nature of residence. However, significant relationships exist between respondents' assessment when compared in terms of occupation and monthly income. The test result shows that the computed chi-square values for the first 5 (five) profile variables are lower than the tabular values. For the last 2 (two) profile variables the computed chi-square values exceed the tabular values.

### **6.3. Relationship between Respondents' Assessment of Other Consequences and Profile of Respondents**

There is no significant relationship between the respondents' assessment of the other consequences of BIDA and the respondents' profile variables in terms of age, gender, marital status, educational attainment, nature of residence, and monthly income. However, significant relationship exists between respondents' assessment when compared in terms of their occupation. The test result shows that the computed chi-square values of all profile variables are lower than the tabular value except for occupation variable.



## **VII. THE PROPOSED POLICY GUIDELINES TO ENHANCE SOCIO ECONOMIC DEVELOPMENT OF BATAM**

The proposed policy guidelines to further enhance socio economic development are as follows:

1. The government has introduced to expecting investors a policy in less expensive land and low labor cost. To promote more Batam and to attract more investors to invest in Batam, the government should create and introduce the other competitive advantage of Batam such as of building rental.
2. The government should determine and train workers to meet the standard minimum of labor force in terms of industrial and technology requirements in Batam trade liberalization zone.
3. Government should develop low cost housing for residents of Batam to accommodate the increasing number of migrants. Then should be reorganizing the resettlement of the migrant workers to allow them to obtain that housing facilities with simplest requirement.
4. Reduce red tape by implementing simple administrative procedures in obtaining initial investment approval, preferably in less than 10 (ten) working days. This can ensure global competitiveness of TLZ and attract more investors to invest in Batam industrial area.
5. To encourage more expatriates to work in Batam TLZ to assist, educate, and transfer their knowledge to local workers. Vis-à-vis, however, all companies, which employ expatriate, are compulsory to pay contribution to the government amounting US\$ 1,500 each foreign worker annually.

## **CONCLUSIONS AND RECOMMENDATIONS**

### **Conclusions**

1. Respondents are mostly young, unmarrieds, residents of Batam with high school certificates whom working in foreign companies and receiving low monthly income.

2. There are 157,283 workers or 34.1 percent of total population taking part in Batam TLZ. They contributed to the growth of Batam regional per capita income of 6.19 percent. Batam development is supported by physical and social infrastructures facilities.
3. Respondents' assessment of economic resources and laws, and socio economic contribution to Batam TLZ is "good" or there is perceived moderate improvement. Despite differences in terms of demographic profile, respondents gave in similar "good" assessment.
4. There are no significant relationships between respondents' assessment of economic resources, socio economic contributions, and other consequences to Batam TLZ in terms of age, gender, marital status, and educational attainment. However, significant relationships exist between respondents' assessment and economic resources, socio economic contribution and other consequences in terms of occupation and monthly income. Very good is respondents' assessment in terms of foreign companies' workers, entrepreneurs and who earned monthly income within the ranges of Rp 2 – 5 million. The other respondents' assessment is "good" in terms of other occupation and monthly income.
5. Reduce red tape by implementing simple administrative procedures in obtaining initial investment approval, preferably in less than 10 (ten) working days. This can ensure global competitiveness of TLZ and attract more investors to invest in Batam industrial area.

### **Recommendations**

The following recommendations are hereby offered:

1. BIDA should be more active in promotion to attract more investors to invest in Batam zone and conduct a comparative study with other countries to improve its global competitiveness and for the government to establish political stability.
2. Due to increase labor force in Batam TLZ, the government should establish more social facilities such as recreations, sports, and other facilities.
3. The local government should have a reforestation program to avoid the possible natural disaster as result of project expansion of BIDA. Instead of incinerating

wastes, industries and government should recycle, reuse, or make compost for better garbage management.

4. Reduce red tape by implementing simple administrative procedures in obtaining initial investment approval, preferably in less than 10 (ten) working days. This can ensure global competitiveness of TLZ and attract more investors to invest in Batam industrial area.

**Dr. Romulo Sinabutar MBA**  
Adalah Dosen Tetap Fakultas Ekonomi  
Universitas Advent Indonesia Bandung

## REFERENCES

- Bartlett A. Christopher, Text, Cases, and Readings in Cross Border Management, 3<sup>rd</sup> Edition, McGraw-Hill, 2000.
- BPS, Biro Pusat Statistik (Central Bureau of Statistic) various years, Statistic of Indonesia, Jakarta: BPS
- Bowerman Bruce and O'Connel Richard, Applied Statistics: Improving Business Process, Irwin, 1997
- Durano Marina B., the North American Free Trade Agreement: Policy Implementations on the Philippines, Center for International Relations and Strategic Studies, Foreign Services Institute, Manila, April 1995
- Fajaro Feliciano R., International Economics, Rex Book Stores, Manila, 1988.
- Jilberto Alex F., Liberalization in the Developing World Institutional and Economic Changes in Latin America, Africa, and Asia, 1996
- La Vina Antonio and Santiago Joseph S., Free Trade in the ASEAN and Its Implications in the Environment: A Comparative Critique of Environmental Impact Assessment Systems, CIRSS, Foreign Services Institute, Manila, Sept. 1995
- McConnell Campbell R., Economics: Principles, Problems, and Policies, McGraw Hill, 1990
- Mikic Mia, International Trade, MacMillan Press, 1998
- Miranda Gregorio S., International Trade, Revised Edition, L&G Business House Publishes, 1997

- Paler Laurentina and Calmorin Melchor A., Methods of Research and Thesis Writing, Rex Book Store, manila, 1995
- Pomfret Richard, Development Economics, Prentice Hall, 1997
- Romero Ana T., Export Processing Zone: Addressing the Social and Labor Issues, Bureau for Multinational Enterprises Activities, International Labor Organization (ILO), 1998.
- Salvatore Dominick, International Economics, 6<sup>th</sup> Edition, Prentice Hall International, Inc., 1998
- Todaro Michael P., Economic Development, 5th Edition, Longman NY, 1994
- Umar Husein, Riset Sumber Daya Manusia Dalam Organisasi, Research on Human Resource in Organization, Revised Edition, Gramedia Pustaka Utama, Jakarta, 1999
- Wickham Philip, Strategic Entrepreneurship: A Decision Making Approach to New Venture Creator and Management, Prentice Hall, 2001
- Abdullah Ismeth, Batam Technically Already Free Trade Zone: BIDA, Seminar on the Prospects fro Batam, Suara Merdeka, February 12, 2001
- BIDA (Batam Industrial Development Authority), 1997, 2000, and 2002: Batam: Development Data December 1999, 2000
- Indonesian an Official Hand Book, National Information Agency, Republic of Indonesia, 2002
- Trade Regulations and Standards, Department of Trade and Industry, Republic of Indonesia, Jakarta, 2001
- Lachica Jacqueline V., The Implication of Economic Zones to the Socioeconomic Development of Cavite, Philippine Christian University, 2000