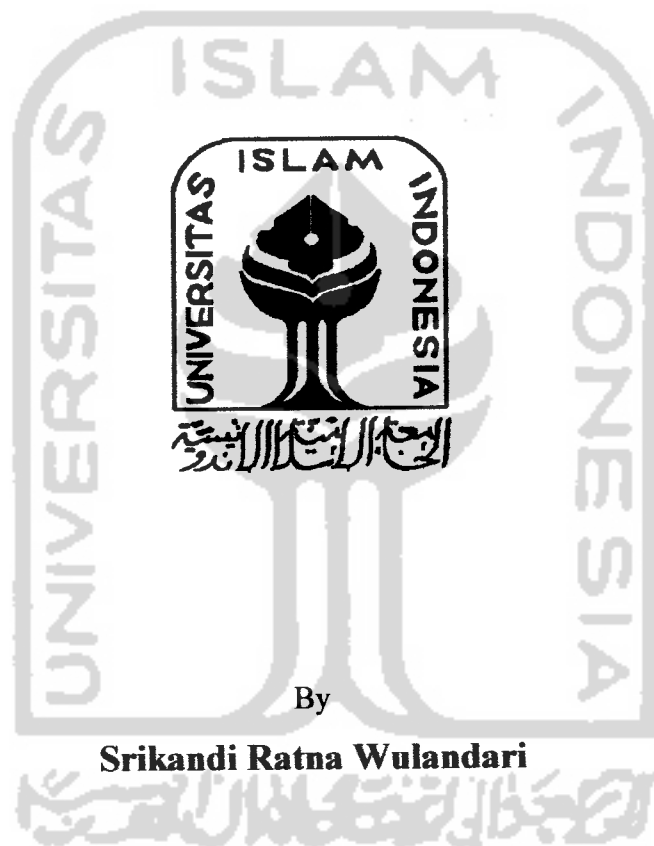


**Analysis of Income Distribution in Central Java Province:**

**An Analysis of SUSENAS Survey 2001-2003**

**A THESIS**



By

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**DEPARTEMENT OF ECONOMICS  
INTERNATIONAL PROGRAM  
FACULTY OF ECONOMICS  
ISLAMIC UNIVERSITY OF INDONESIA  
YOGYAKARTA**

**2007**

**Analysis of Income Distribution in Central Java Province:**

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**A THESIS**

Presented as Partial Fulfillment of the Requirements

To Obtain the Bachelor Degree in Economics Department



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YOGYAKARTA**

**2007**

## **STATEMENT OF FREE PLAGIARISM**

Herein I declare the originality of this thesis; there is no other work which has ever presented to obtain any university degree, and in my concern there is neither one else's opinion nor published written work, except acknowledge quotation relevant to the topic of this thesis which have been stated or listed on the thesis bibliography.

If in the future this statement is not proven as it supposed to be, I am willing to accept any sanction complying to the determinated regulation for its consequence.

Yogyakarta, June 06, 2007

Srikandi Ratna Wulandari

**Analysis of Income Distribution in Central Java Province:**

**An Analysis of SUSENAS Survey 2001-2003**



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**Analysis of Income Distribution in Central Java Province:  
An Analysis of SUSENAS Survey 2001-2003**

**A BACHELOR DEGREE THESIS**

**By**

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**Defended before the Board of Examiners  
on June 27, 2007  
and Declared Acceptable**

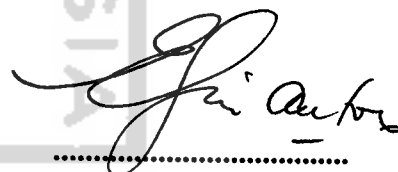
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**Dean**



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## **ABSTRACT**

Srikandi Ratna Wulandari (2007), "Analysis of Income Distribution in Central Java Province: An Analysis of SUSENAS Survey 2001-2003", Faculty of Economics, Developmental Economics Studies, International Program, Islamic University of Indonesia, Yogyakarta.

Income which is unequal distributed among people will result in gap between rich people and poor people in the society itself. Every society expects that income is distributed with low inequality. Which mean that income can be obtained not only by minority but also by majority of society. The effort to overcome inequality is not enough if only depend on the size of GRDP. It needs serious effort from government to overcome it. Central Java Province is chosen as research object because has unique characteristic, this province has high level of GRDP, high population, low percapita income and high level of poverty. Those indicators cannot produce a conclusion about economic well being in a province because there are missing indicator namely income distribution. The main theme of this thesis is to calculate income distribution and to utilize the result to develop a conclusion concerning economic well being of the people in Central Java Province. Based on the fact that Central Java has high level of GRDP but high level of poverty, this thesis hypothesis that income distribution of Central Java is relatively unequal.

To measure income distribution in Central Java Province in 2001, 2002 and 2003, this thesis used analytical tools by Calculation method of Relative Income Distribution among group with Gini Coefficient, Kuznets Index, Oshima Index and Relative Inequality and also used Statistical method approach with Coefficient Variation of Income Distribution.

The result of the calculation in this thesis shows that the calculation of Gini Coefficient, Kuznets Index, Oshima Index, Relative Inequality and Coefficient Variation of Income Distribution indicate low level of income distribution inequality in Central Java Province which mean that income distribution in Central Java Province is relatively fair.

Based on the result and the fact that GRDP of Central Java is high, low income percapita, high population and huge number of population live in poverty, the writer conclude that people in Central Java Province are generally live in poverty.

Writer

## ABSTRACT

Srikandi Ratna Wulandari (2007), "Analysis of Income Distribution in Central Java Province an Analysis of SUSENAS Survey 2001-2003", Faculty of Economics, Developmental Economics Studies, International Program, Islamic University of Indonesia, Yogyakarta.

Pendapatan yang tidak didistribusikan secara merata kepada masyarakat akan menimbulkan jurang antara orang kaya dan orang miskin. Setiap masyarakat mengharapkan pendapatan tersebut dapat didistribusikan dengan ketimpangan yang rendah. Yang berarti pendapatan dapat diterima tidak hanya diperoleh golongan kecil semata tetapi juga golongan besar di dalam masyarakat. Usaha untuk mengatasi ketimpangan tidak cukup jika hanya mengandalkan besarnya PDRB. Ini memerlukan upaya serius dari pemerintah untuk mengatasinya. Propinsi Jawa Tengah dipilih sebagai objek penelitian karena mempunyai karakteristik yang unik, propinsi ini mempunyai tingkat PDRB yang tinggi, penduduk yang banyak, pendapatan percapita yang rendah dan tingkat kemiskinan yang tinggi. Indikator-indikator tersebut belum dapat digunakan untuk menarik kesimpulan mengenai kesejahteraan ekonomi suatu propinsi karena ada indikator yang hilang yaitu distribusi pendapatan. Tujuan utama skripsi ini adalah menghitung distribusi pendapatan and mengembangkan hasilnya untuk menarik kesimpulan mengenai kesejahteraan ekonomi masyarakat di Propinsi Jawa Tengah. Berdasarkan fakta bahwa Jawa Tengah mempunyai tingkat PDRB yang tinggi tetapi mempunyai tingkat kemiskinan yang tinggi, skripsi ini menghipotesakan bahwa distribusi pendapatan di Jawa Tengah relatif tidak merata.

Untuk mengukur distribusi pendapatan di Propinsi Jawa Tengah tahun 2001, 2002 dan 2003 skripsi ini menggunakan alat analisis dengan perhitungan distribusi pendapatan relative antar kelompok antara lain Koefisien Gini, Indeks Kuznet, Indeks Oshima, dan Ketimpangan Relatif; dan juga menggunakan Pendekatan Statistik dengan Koefisien Variasi Distribusi Pendapatan.

Hasil dari perhitungan ini menunjukkan bahwa perhitungan dari Gini Koefisien, Indeks Kuznet, Indeks Oshima, Ketimpangan Relative dan Koefisien Variasi Distribusi Pendapatan mengindikasikan ketimpangan distribusi pendapatan yang rendah di Propinsi Jawa Tengah yang berarti bahwa distribusi pendapatan di Propinsi Jawa Tengah relatif adil.

Berdasarkan hasil yang diperoleh dan fakta bahwa pendapatan PDRB yang tinggi di Jawa Tengah, Pendapatan Per capita yang rendah, Penduduk yang banyak dan tingkat kemiskinan yang tinggi, penulis menyimpulkan bahwa masyarakat di Propinsi Jawa Tengah hidup miskin merata

Penulis

## CHAPTER I

### INTRODUCTION

#### 1.1 Background of the Study

The national economic recovery which affects the regional economic recovery indirectly has influenced the society consumption level toward the basic needs of life especially the need of food. By economic recovery, the prices of social needs will be stabil and reachedable by society.

The income level of society to be less equal may create gap between rich people (high income) and poor people (low income) or usually called by "*Income Gap*". If the income gap is greater, usually it will generate security crisis or at least generate society dissatisfaction which turn to generate a social distortion. On the contrary, an equal income distribution in society indicates a perfect of society prosperity, meaning there will be no more poor people, they will live in completely sufficiency.

Income distribution of society is a picture concerning a situation of prosperity level in society at one particular area or state. The level of society can be seen through sufficiency of need of their life. The distribution equalization which is expected by all citizens is income distribution with low inequality, where the income can be obtained not only by majority society but also by minority society.

Lincoln Arsyad (1992) one of many economic experts, analyzed 8 problems of income distribution equalization in developing countries, namely:

- 1 Accretion of high population results a decreasing per Capita income
- 2 Inflation in which money income is increasing but is not followed by accretion of good production as proportional
- 3 Development between area is not equal
- 4 Many investment in solid project capital (capital intensive), therefore the percentage of capital income from additional wealth is bigger than percentage of income from a job, so that unemployment increased
- 5 Lowering of social mobility
- 6 Execution policy of import substitution industry resulting increasing price of goods from industry to protect the effort of capitalist group
- 7 Deteriorating of exchange rate (terms of trade) for developing countries in commerce with develop countries, as an effect of inelastic demand to export goods of developing countries
- 8 Destruction of public industry like crafting, home industry etc

A fair and prosperous society has always been the aspiration of Indonesian people. However, the goal to reach such condition has not been overcome yet because of several aspects. It can be seen in the reality that the income difference

among society or resident faction is wider progressively. Poverty in Indonesia is still high.

According to the World Bank, Indonesia has succeeded to lessen the amount of poor people relatively from 40% in the year of 1976 becoming 22% from population amount in 1984. Around year 1990, government has succeeded to decrease absolute poverty number become 15% from amount of population, but economic crisis which knock over in 1997 had caused the increasing amount of poor people become 24% especially because of the effect of disconnection of job relation (PHK) in group industry (Wijayanti, 2005:216)

We can see from table 1.1 that the amount of poor people is relatively constant, it is around 38 million people of Indonesia live in poverty. The differences of poverty level in every province will bring an impact to the level of prosperity among provinces which in the end will cause interregional differences become greater. Java, which is considered a develop region compared to others has not get out of poverty problem. Although so far the existing province in Java Island tend to have Gross Regional Domestic Product (GRDP) level and economic growth relatively high, but in reality in this region there are a lot of poverty happened. One might suggest that is because of inequality of income distribution.

Table 1.1  
The Number of Population live in Poverty 2000-2003

| No | Province           | Population Live in Poverty<br>(000) |              |              |              |
|----|--------------------|-------------------------------------|--------------|--------------|--------------|
|    |                    | 2000                                | 2001         | 2002         | 2003         |
| 1  | NAD                | 721,6                               | 791,6        | 1199,9       | 1254,2       |
| 2  | Sumatra Utara      | 1491,8                              | 1359,7       | 1883,9       | 1883,6       |
| 3  | Sumatra Barat      | 482,5                               | 643,3        | 496,4        | 501,1        |
| 4  | Riau               | 485,6                               | 619,5        | 828,6        | 849,5        |
| 5  | Jambi              | 504,9                               | 480,4        | 326,9        | 327,3        |
| 6  | Sumantra Selatan   | 1338                                | 1113,8       | 1600,6       | 1397,1       |
| 7  | Bengkulu           | 249                                 | 308,5        | 372,4        | 344,2        |
| 8  | Lampung            | 2017,8                              | 1674,1       | 1650,7       | 1568         |
| 9  | DKI Jakarta        | 416,1                               | 247,5        | 286,9        | 294,1        |
| 10 | Jawa Barat         | 6658,4                              | 6956,3       | 5742,9       | 5754,8       |
| 11 | Jawa Tengah        | 6513,6                              | 6856,7       | 7308,3       | 6980         |
| 12 | D.I Yogyakarta     | 1035,8                              | 767,6        | 635,7        | 636,8        |
| 13 | Jawa Timur         | 7845,4                              | 7508,3       | 7701,2       | 7578,4       |
| 14 | Bali               | 176,8                               | 248,4        | 221,8        | 246,1        |
| 15 | NTB                | 1070,5                              | 1175,5       | 1145,8       | 1054,8       |
| 16 | NTT                | 1425,9                              | 1317,5       | 1206,5       | 1166         |
| 17 | Kalimantan Barat   | 1095                                | 728,5        | 644,2        | 583,7        |
| 18 | KalimantanTengah   | 213,7                               | 215,4        | 231,4        | 207,7        |
| 19 | Kalimantan selatan | 385,3                               | 357,5        | 259,8        | 259          |
| 20 | Kalimantan Timur   | 393,6                               | 349,7        | 313          | 328,6        |
| 21 | Sulawesi Utara     | 365,9                               | 466,2        | 504          | 449,3        |
| 22 | Sulawesi Tengah    | 503,2                               | 530,5        | 564,6        | 509,1        |
| 23 | Sulawesi Selatan   | 1198                                | 1296,3       | 1309,2       | 1301,8       |
| 24 | Sulawesi Tenggara  | 419,2                               | 457,5        | 463,8        | 428,4        |
| 25 | Maluku             | 721,6                               | 528,9        | 528,9        | 517,9        |
| 26 | Papua              | 970,9                               | 900,8        | 984,7        | 917          |
|    | <b>INDONESIA</b>   | <b>38700</b>                        | <b>37900</b> | <b>38394</b> | <b>37339</b> |

Sources: BPS- Statistic Indonesia

Knowledge about inequality income distribution especially when it is calculated for more than one year has very significant aspect among other: first, it will give the knowledge about whether or not a region is in inequality of income

distribution. Secondly, show the result of the effort of government to equalize income distribution in that region if income distribution is decreasing through year it means that the effort is success.

The effort to overcome income distribution inequality is not as simple as depending only on the increasing the size of Gross Regional Domestic Product (GRDP). It requires a serious action of government to overcome it.

The principle of equalization and social justice in Pancasila economic system is clearly stated in the spirit and soul of Constitution 1945. Therefore, without special program and government policy, Indonesia has to execute social justice principle in economics. This can be looked at other rule in constitution like conservancy of poor and miserable people by country and proper work guarantee for every citizen.

In section 27 article 2 constitution 1945 mention "That every citizen is entitled to have proper subsistence and work". More about proper life criterion is not mention detailed furthermore.

Beside the ideal right for every citizen, in section 34 constitutions 1945 it also mentioned that for the agenda of social justice prosperity, "poor and miserable people and neglected children is protected by country". The approach of helping poor people however not been explained in the constitution 1945. Since the constitution 1945 is not suppose to make a comprehensive law which arranging economic democracy problem in Indonesia, but the effort for helping

poor people should be able to be found in laws subservient to the constitution 1945 that can be made by MPR. As an example TAP MPR No II/MPR/1993 about GBHN was dealing with equal income distribution approach, which covers eight paths to equalize income among people so that poor people can be alleviated

National economic development toward 8 generalization path, namely:

- 1 Equalization in accomplishment public basic needs, especially foods, housing and clothing
- 2 Equalization in opportunity to get education and service of health
- 3 Equalization of income distribution
- 4 Equalization in the job opportunity
- 5 Equalization in the opportunity to earn living
- 6 Equalization in the opportunity to participate, especially for young and woman generation
- 7 Equalization in regional development spreading all over Indonesia
- 8 Equalization in the opportunity to get justice<sup>1</sup>

From these equalization paths it can be seen that development in Indonesia is no longer emphasized at only economic growth solely, but also at equalization of development result for every single people in the country.

The object region of this thesis chosen by the writer is Central Java Province. The writer found that economic indicator in Central Java is unique. Economic growth in Central Java Province as one of development efficacy

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<sup>1</sup>T ,Gilarso. (1986). *Ekonomi Pancasila* (sebuah pengantar), 1<sup>st</sup> ed., Yogyakarta: Kanisius

indicator which is measured with Gross Regional Domestic Product during range of five years had been increasing. The increasing of GRDP is in line with the economic recovery effort done merely by all provinces after economic crisis in 1997.

In table 1.2 we can see that GRDP of Central Java Province increases from 114.701.304.810.000 at year 2000 to 129.166.462.450.000 at year 2003 with an increases of 12,6%.

Table 1.2

Gross Regional Domestic Product at Constant 2000 Market Price  
in Central Java 2000 – 2003 (Million Rupiahs)

| Year | GRDP           |
|------|----------------|
| 2000 | 114,701,304,81 |
| 2001 | 118,816,400,29 |
| 2002 | 123,038,541,13 |
| 2003 | 129,166,462,45 |

Sources: BPS-Statistics of Central Java Province

Looking at the level of GRDP per Capita by regency and cities, we can see that the number is vary. Not only that it is influenced by potency of the region, it is also influenced by the number of population in each region. But in general, city region have higher GRDP per Capita compared to the regency region.

The top 3 regencies with high income per capita in 2003 are: Cilacap (10,61 million rupiahs), Kudus (11,23 million rupiahs) and Semarang (11,70 million rupiahs). On the other hand there are still many regencies or cities receive the smallest amount of GRDP per Capita as low as one tens of the highest GRDP per capita in the province. The relatively poorer regencies and cities are Grobogan (1,57 million rupiahs), Kebumen (1,77 million rupiahs) and Tegal (1,79 million rupiahs)

Tables 1.3

Gross Regional Domestic Product per Capita at Constant 2000 Market Price by  
Regency and City in Central Java 2000-2003 (million Rupiahs)

| Regency/City     | 2000         | 2001         | 2002          | 2003          |
|------------------|--------------|--------------|---------------|---------------|
| 01. Cilacap      | 9.466.757.20 | 9.782.384.35 | 10.615.041.31 | 11.255.787.47 |
| 02. Banyumas     | 1.779.893.96 | 1.802.771.59 | 1.846.923.06  | 1.916.455.23  |
| 03. Purbalingga  | 1.731.727.24 | 1.765.807.02 | 1.804.376.33  | 1.872.407.13  |
| 04. Banjarnegara | 2.391.169.10 | 2.360.857.52 | 2.361.445.63  | 2.411.805.66  |
| 05. Kebumen      | 1.667.847.65 | 1.674.374.95 | 1.720.534.90  | 1.768.035.01  |
| 06. Purworejo    | 2.679.852.84 | 2.768.780.33 | 2.845.715.59  | 2.977.279.48  |
| 07. Wonosobo     | 1.826.870.99 | 1.854.589.15 | 1.874.277.65  | 1.900.948.30  |
| 08. Magelang     | 2.418.199.71 | 2.464.826.90 | 2.557.209.57  | 2.656.619.45  |
| 09. Boyolali     | 3.050.223.89 | 3.226.218.29 | 3.295.221.64  | 3.440.777.03  |
| 10. Klaten       | 2.501.435.25 | 2.588.999.16 | 2.676.561.19  | 2.789.644.31  |
| 11. Sukoharjo    | 3.607.676.31 | 3.713.844.27 | 3.784.499.29  | 3.908.546.86  |
| 12. Wonogiri     | 1.974.957.15 | 1.987.102.95 | 2.029.834.30  | 2.102.622.90  |
| 13. Karanganyar  | 4.103.487.37 | 9.967.870.92 | 4.115.564.26  | 4.306.028.07  |
| 14. Sragen       | 2.285.782.53 | 2.323.980.78 | 2.393.665.16  | 2.473.475.58  |
| 15. Grobogan     | 1.426.966.93 | 1.472.312.72 | 1.508.563.16  | 1.567.067.57  |
| 16. Blora        | 1.963.458.12 | 2.014.050.98 | 2.052.963.22  | 2.143.605.44  |
| 17. Rembang      | 2.434.653.18 | 2.484.046.71 | 2.567.715.31  | 2.642.038.25  |
| 18. Pati         | 2.517.587.58 | 2.593.014.76 | 2.645.378.74  | 2.677.016.88  |

|                     |               |               |               |               |
|---------------------|---------------|---------------|---------------|---------------|
| 19. Kudus           | 10.744.942.44 | 11.048.967.75 | 11.230.996.13 | 11.333.464.38 |
| 20. Jepara          | 2.877.812.88  | 2.922.149.20  | 2.983.435.83  | 3.001.111.61  |
| 21. Demak           | 2.319.523.99  | 2.380.605.64  | 2.430.160.57  | 2.448.603.84  |
| 22. Semarang        | 3.981.911.89  | 4.073.675.30  | 4.495.436.25  | 4.346.047.92  |
| 23. Temanggung      | 2.712.921.75  | 2.772.723.86  | 2.845.278.23  | 2.953.248.91  |
| 24. Kendal          | 4.154.558.97  | 4.265.434.72  | 4.379.768.17  | 4.491.008.84  |
| 25. Batang          | 2.635.193.12  | 2.678.159.29  | 2.708.479.98  | 2.740.842.62  |
| 26. Pekalongan      | 2.789.376.08  | 2.796.717.77  | 2.854.059.41  | 2.927.702.20  |
| 27. Pemalang        | 1.928.583.11  | 1.970.975.68  | 2.027.365.93  | 2.081.455.27  |
| 28. Tegal           | 1.600.549.95  | 1.646.830.24  | 1.713.313.33  | 1.794.054.43  |
| 29. Brebes          | 2.047.917.10  | 2.096.030.89  | 2.195.858.19  | 2.292.670.24  |
| 30. Magelang city   | 6.369.621.93  | 6.569.672.28  | 6.753.411.40  | 7.049.757.23  |
| 31. Surakarta city  | 6.098.221.84  | 6.355.970.10  | 6.678.898.74  | 7.093.055.05  |
| 32. Salatiga city   | 4.314.378.47  | 4.505.815.96  | 4.668.409.15  | 4.892.781.68  |
| 33. Semarang city   | 10.836.129.52 | 10.934.597.26 | 11.420.909.91 | 11.703.362.34 |
| 34. Pekalongan city | 5.084.663.21  | 5.267.064.19  | 5.461.372.42  | 5.607.222.12  |
| 35. Tegal city      | 2.935.566.77  | 3.153.861.17  | 3.257.789.28  | 3.407.065.64  |

Sources: BPS, Statistic of Central Java Province

Further to observation to the number of population live in poverty in Central Java Provinces we can see from table 1.4 and 1.1 that Central Java has serious problem about the big number of population live in poverty. From 2001 until 2003 the amount is around 7.000.000 people live in poverty.

Tables 1.4

## Population live in Poverty of Central Java Province

2001-2003 (thousand people)

| Year | Poor People |        |             |
|------|-------------|--------|-------------|
|      | Urban       | Rural  | Urban+Rural |
| 2001 | 1441.0      | 5415.7 | 6856.7      |
| 2002 | 2762.3      | 4546.0 | 7308.3      |
| 2003 | 2520.3      | 4459.7 | 6980.0      |

Sources: BPS-Statistics Indonesia

For Central Java Province, a problem concerning the inequality of income distribution is very interesting to be examined. Central Java Province is a relatively developed Province with many industries result in relatively big total of GRDP, but on the other hand Central Java owned high number of people live in poverty. These data suggest a complicated conclusion concerning the well being of people live in Central Java because there is one of indicator missing that is distribution among society namely Income distribution. This research intend to calculate the income distribution level of Central Java Province in order to be able to provide more proper conclusion about the economic well being among the people live in Central Java Province. Relating to those problems, hence the title which selected by the writer is **“Analysis of Income Distribution in Central Java Province: An Analysis of SUSENAS Survey 2001-2003**

## **1.2 Problem Formulation**

Based on the background, the problem in this research can be formulated as follows:

1. What are the size of Gini Coefficient, Kuznets Index, Oshima index, Inequality Relative and Coefficient Variation of Income Distribution in Central Java Province in 2001, 2002 and 2003?
2. From the sizes result above, what can be concluded about the inequality income distribution in Central Java Province?

## **1.3 Problem Limitation**

This research focuses on:

1. The calculation of Income distribution using the formula of Gini Coefficient, Kuznets Index, Oshima index, Inequality Relative and Coefficient Variation of Income Distribution.
2. The analysis of Income Distribution based on the result from the calculation above.

## **1.4 Research Objectives**

The objectives of this research are to:

1. Calculate the level of income distribution inequality in Central Java Province.
2. Compare the level of income distribution inequality in Central Java Province in period of 2001-2003.

3. Analyze the income distribution in Central Java Province based on research finding.

### **1.5 Research Contribution**

1. For local government, knowing income distribution of area will get a clear picture how far the efficacy of economic development in income equalization is enjoyed by society, and at the same time it can be a reference to determine a better policy in the next period.
2. For writer, it is one of the requirements to get an S1 Degree from Islamic University of Indonesia.

### **1.6 Hypotheses**

As research guidance, this thesis uses the following hypotheses:

1. That the size of Gini Coefficient, Kuznets Index, Oshima index, Inequality Relative and Coefficient Variation of Income Distribution in Central Java Province are big as supposed to high regional income but high poverty level.
2. That based on the first hypothesis, income distribution in Central Java Province is relatively unequal.

## **CHAPTER II**

### **REVIEW OF RELATED LITERATURE**

#### **2.1 Theoretical Review**

##### **2.1.1 Income Distribution**

Studies related to income distribution in Indonesia, generally use expenditure data of household consumption from National Economic Social Survey (SUSENAS) which is published by Statistical Center (BPS). Expenditure consumption data is used as an approach (proxy) to measure the level of inequality of income distribution in society, although expenditure data in fact have some weakness. Using consumption expenditure can give income information which was formerly underestimated. It is because the amount of consumption expenditure by someone is not always equal to the income obtained, it can be smaller or higher. For example: the higher income does not always mean their consumption expenditure is also high. It means that there is some saving. While if the amount of income is small it does not always mean smaller amount of consumption. Because many household use credit card from bank to pay a certain consumption expenditure such as to buy house, car, or vacation with their family.

Thus, the definition of income is a payment that he/she got because working or selling service. It is different from the definition of wealth. Someone might possibly have no work (income), but he is very rich because of their family heritage.

Income data collecting in Indonesia is likely still relative difficult, one of them is because many household or individual which have informal work sector or uncertain work, hence using household consumption expenditure data is one of alternative approach.

A simple approach in income distribution problem is using Production Possibility framework. A production in one area divided into two groups of goods that are primary goods which consist of food, beverage and housing and the second goods are luxurious goods. With assumptions that any factors of production have been fully exploited so the problem which emerge is how to determine the combination of goods which will be produced and how society will determine them ( Todaro, 1999)

Income distribution as a measurement is divided into two basic measurement, either for analysis purpose or collecting qualitative data, namely:

1. Individual income distribution or distribution income measurement

Individual income distribution is based on the amount of income, which is mostly used by economist. The distribution is only concerning individual people or households and their total income. It is not a question whether their income is from their work or from other source. The attention is how much income is being receives by someone. Besides also disregards the income source related location (whether it is in rural area or urban) and the type of work (such as agriculture, industrial, trade, manufacture etc)

Economic and statistic expert prefer if the income from each individual is high and divided them into different group. Therefore, they can determine the

proportion from income which is accepted by each group. The general method is usually used by many researchers to divide income distribution become quintile (5 groups) or deciles (10 groups).

Tables 2.1  
Individual Income Distribution Based on Income Compartment  
In Some Developing Countries

| Individual                 | Individual Income | Percentage from total income |         |
|----------------------------|-------------------|------------------------------|---------|
|                            |                   | Quintile                     | Deciles |
| 1                          | 0.8               |                              |         |
| 2                          | 1.0               |                              | 1.8     |
| 3                          | 1.4               |                              |         |
| 4                          | 1.8               | 5                            | 3.2     |
| 5                          | 1.9               |                              |         |
| 6                          | 2.0               |                              | 3.9     |
| 7                          | 2.4               |                              |         |
| 8                          | 2.7               | 9                            | 5.1     |
| 9                          | 2.8               |                              |         |
| 10                         | 3.0               |                              | 5.8     |
| 11                         | 3.4               |                              |         |
| 12                         | 3.8               | 13                           | 7.2     |
| 13                         | 4.2               |                              |         |
| 14                         | 4.8               |                              | 9.0     |
| 15                         | 5.9               |                              |         |
| 16                         | 7.1               | 22                           | 13.0    |
| 17                         | 10.5              |                              |         |
| 18                         | 12.0              |                              | 22.5    |
| 19                         | 13.5              |                              |         |
| 20                         | 15.0              | 51                           | 28.5    |
| Total<br>(National Income) | 100.0             | 100                          | 100.0   |

## 2. Functional income distribution / income distribution per factor production

This distribution measurement focuses on national income which is accepted by each production factors (land, labor and capital). Functional distribution theory is basically questioning on percentage of income job production as a whole, not the factor of individual production and compare them with total percentage of income in the form of rent, interest and profit (it is from land, deposit money and physical capital) although some individual might possibly accept all result from those resource as a whole (Todaro,2000:222).

According to Ahluwalia related to the income distribution can be shown in two matters as follows:

### 1. Relative income distribution

Relative income distribution is a comparison between the amount of income which is accepted by various receiver groups, and this group is based on how much income that they get or accept. To depict a relative income distribution, Ahluwalia classified income receiver in three groups, namely:

- 40% accepting lowest income
- 40% accepting middle income
- 40% accepting highest income

### 2. Absolute income distribution

Absolute income distribution is a percentage amount of population in which is the income reaches a level of some number of selected income or less. In Ahluwalia analysis it shows an absolute income

distribution in a developing countries which the amount of population accepting income is below poverty line.

The usual measurement used is World Bank criterion:

- High equalization if 40% of population with low income receive less than 12% of national income
- Middle equalization if 40% of population with low income receive 12% - 17% of national income
- Low equalization if 40% of population with low income receive more than 17% of national income

This inequality of income distribution expressed the existence of poverty condition (Arifandi, 2002).

## **2.1.2 Division of Income**

### **2.1.2.1 Division of Interregional income / rural area and urban area**

The changing in income division inequality also can be evaluated from different aspect among rural and urban area. Therefore, there are two indicators as follows:

- Comparison between per Capita income level in urban and rural
- Income disparity of urban and rural area

A development pattern in Indonesia is shown “*diffraction urban*” or orientation to urban area with heavy pressure at industry which organized well is the basic for income distribution become unequal in the future<sup>2</sup>.

Urban diffraction in Indonesia development pattern recently seem to agree with the perception of Lipton, 1978 an economic expert from English about urban diffraction in development pattern in developing countries, where resources allocation in most developing countries are express an urban priorities rather than consideration of efficiency and equalization<sup>3</sup>.

Thereby that income distribution in rural in the future may be worsen, although in this case there are any indication in the contrary that income distribution in rural area will be better.

#### 2.1.2.2 The Inequality in Interregional Income Distribution

Another aspect from inequality is an inequality of interregional income distribution in Indonesia which cause inequality pattern in level of interregional income per Capita. This interregional income inequality is caused by the spreading of natural resources which is not equal to the difference in the interregional growth rate and interregional development result.

In this case, it must be understood that interregional income inequality only presents a macro picture regarding to the level of average income in many Province in Indonesia. But it does not show the division pattern between many income groups in each Province.

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<sup>2</sup> Thee Kian, Wie. (1981). *Pembangunan Ekonomi dan Pemerataan*. Jakarta:LP3ES., p11

<sup>3</sup> *ibid.*, p12

## 2.2 Literature Review

The following table shows the income distribution research done in Indonesia. The research is based on the calculation of Gini Coefficient. The number of Gini Coefficient which has been obtained by researchers shows that an area become their object still has different level of inequality.

Income distribution which has been done by R.M Sundrum (1973), King-Weldon (1975), Hendra Esmara (1975), Tri Hardanto Adhi Nugroho (1999) and Dian Arifandi (2002) used expenditure data. The result is used to examine the distribution inequality level, whether include in high or low criterion. While Sam.F Poli (1978), Sumitro Djojohadikusumo (1975) and Sujono-Birowo (1976) uses income data to get income distribution inequality level included in high or middle criterion.

The result of Gini Coefficient from various researchers is not such an absolute matter to express the inequality condition, but it depends on the calculation method or variable which is use in perception of how much class interval, so the result number should be taken attention in particular.

| Researchers                      | Sources  | Data        | Area                          | Years     | Gini Coefficient |
|----------------------------------|----------|-------------|-------------------------------|-----------|------------------|
| R.M Sundrum (1973)               | SUSENAS  | Expenditure | Indonesia                     | 1964-1965 | 0,389            |
| King - Weldon (1975)             | SUSENAS  | Expenditure | Java                          | 1964-1965 | 0,328            |
|                                  |          |             |                               | 1969-1970 | 0,309            |
|                                  |          |             | Java-Madura (Rural)           | 1964-1965 | 0,301            |
|                                  |          |             |                               | 1968-1969 | 0,332            |
|                                  |          |             | Bandung, Semarang, Yogyakarta | 1968-1969 | 0,363            |
|                                  |          |             | Jakarta                       | 1968-1969 | 0,392            |
|                                  |          |             |                               | 1970      | 0,438            |
| Hendra Esmara (1975)             | SUSENAS  | Expenditure | Indonesia (Urban)             | 1969      | 0,333            |
|                                  |          |             | Indonesia (Rural)             | 1969      | 0,330            |
|                                  |          |             | Palembang                     | 1968-1969 | 0,363            |
|                                  |          |             | Jakarta                       | 1968-1969 | 0,389            |
|                                  |          |             | Surabaya                      | 1968-1969 | 0,350            |
|                                  |          |             | Yogyakarta                    | 1968-1969 | 0,422            |
| Sujono - Birowo (1976)           | SUSENAS  | Income      | Central Java (Rural)          | 1968-1969 | 0,533            |
|                                  |          |             |                               | 1973-1974 | 0,495            |
| Sam.F Poli (1978)                | SAKERNAS | Income      | Indonesia                     | 1960      | 0.45             |
|                                  |          |             |                               | 1970      | 0.50             |
|                                  |          |             | Indonesia (Urban)             | 1978      | 0,49             |
|                                  |          |             | Indonesia (Rural)             | 1978      | 0.50             |
|                                  |          |             | Indonesia                     | 1978      | 0,52             |
| Sumitro Djojohadikusumo(1975)    | SUSENAS  | Income      | Indonesia                     | 1990      | 0,339            |
| Tri Hardanto Adhi Nugroho (1999) | SUSENAS  | Expenditure | Yogyakarta                    | 1996      | 0,3911           |
|                                  |          |             |                               | 1997      | 0.3450           |
|                                  |          |             |                               | 1998      | 0,0728           |
| Dian Arifandi (2002)             | SUSENAS  | Expenditure | Lampung                       | 1993      | 0,294            |
|                                  |          |             |                               | 1996      | 0,2905           |
|                                  |          |             |                               | 1999      | 0,3102           |

**Sources :**

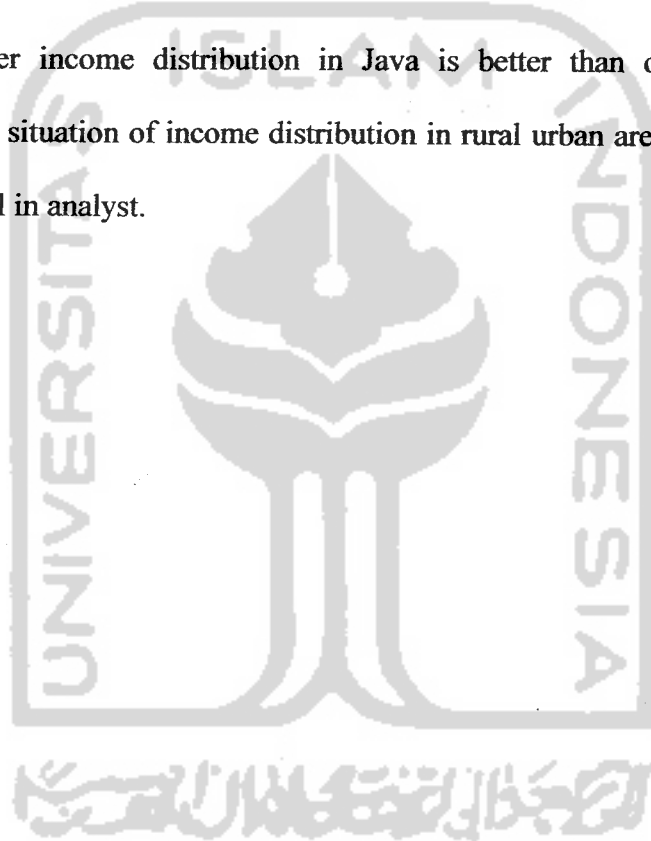
*Thee Kian Wie, 1981*

*Lincoln Arsyad, 1992*

*Tri Hardanto Adhi Nugroho (1999)*

*Dian Arifandi (2002)*

Although Gini coefficient can show the quality of income distribution but it cannot show the income distribution in detail and it cannot give satisfying picture related to the level of income and economic development. From the observer result by researchers about the equalization of income distribution in Indonesia definitive conclusion about the real condition is not compiled yet. The question whether income distribution in Java is better than other island in Indonesia or the situation of income distribution in rural urban area is better than urban area is still in analyst.



## **CHAPTER III**

### **RESEARCH METHOD**

#### **3.1 Central Java Province Profile**

Central Java Province especially highlights the geographical position, the population, inflation, financial area, labor, regional minimum wage and society prosperity.

##### **3.1.1 Geographical position**

Central Java Province is one of a region of Indonesia, which in the south area it is limited by D.I Yogyakarta province and Ocean Indies, the west is limited by West Java province, the north is limited by Java Sea and the east is limited by East Java province. The east longitude is at 108°-111°BT and the south longitude is at 50°-8°. Central Java province is divided into 29 regencies and 6 cities.

Table 3.1  
Area of Central Java Province by Regency and City

| Regency or city  | Area (km <sup>2</sup> ) |
|------------------|-------------------------|
| 01. Cilacap      | 2138.51                 |
| 02. Banyumas     | 1327.59                 |
| 03. Purbalingga  | 777.65                  |
| 04. Banjarnegara | 1069.74                 |
| 05. Kebumen      | 1282.74                 |
| 06. Purworejo    | 1034.82                 |
| 07. Wonosobo     | 984.68                  |

|                     |         |
|---------------------|---------|
| 08. Magelang        | 1085.73 |
| 09. Boyolali        | 1015.07 |
| 10. Klaten          | 655.56  |
| 11. Sukoharjo       | 466.66  |
| 12. Wonogiri        | 1822.37 |
| 13. Karanganyar     | 772.20  |
| 14. Sragen          | 946.49  |
| 15. Grobogan        | 1975.85 |
| 16. Blora           | 1794.40 |
| 17. Rembang         | 1014.10 |
| 18. Pati            | 1491.20 |
| 19. Kudus           | 425.17  |
| 20. Jepara          | 1004.16 |
| 21. Demak           | 897.43  |
| 22. Semarang        | 946.86  |
| 23. Temanggung      | 870.23  |
| 24. Kendal          | 1002.27 |
| 25. Batang          | 788.95  |
| 26. Pekalongan      | 836.13  |
| 27. Pemalang        | 1011.90 |
| 28. Tegal           | 879.70  |
| 29. Brebes          | 1657.73 |
| 30. Magelang City   | 18.12   |
| 31. Surakarta City  | 44.03   |
| 32. Salatiga City   | 52.96   |
| 33. Semarang City   | 373.67  |
| 34. Pekalongan City | 44.96   |
| 35. Tegal City      | 34.49   |

Sources: BPS- Statistic of Central Java Province

From tables 3.1, Cilacap has the biggest region area in Central Java Province which is equal to 2138,51 km<sup>2</sup> and Magelang City has the smallest region area that is 18,12 km<sup>2</sup>. As a whole the width of Central Java province is 32.544,12 km<sup>2</sup>.

### 3.1.2 The Population

The number of population in Central Java Province increases continually every year, but the impressive accretion is the number of female higher than male. The population growth in a year is 0,445%, the male growth mean is 0,497% and the mean of population female in a year is equal to 0, 39%

Tables 3.2

Population of Central Java Province by age and household

1999-2003

| Year | Household  | Sex        |            | Total      |
|------|------------|------------|------------|------------|
|      |            | Male       | Female     |            |
| 1998 | 30.385.445 | 15.036.344 | 15.349.101 | 30.385.445 |
| 1999 | 30.761.221 | 15.245.718 | 15.515.503 | 30.761.221 |
| 2000 | 30.775.846 | 15.253.438 | 15.522.408 | 30.775.846 |
| 2001 | 31.063.818 | 15.445.400 | 15.618.418 | 31.063.818 |
| 2002 | 31.691.866 | 15.787.143 | 15.904.723 | 31.691.866 |
| 2003 | 32.052.840 | 15.957.412 | 16.095.428 | 32.052.840 |

Sources: National Socio Economic Survey, BPS-Statistic Indonesia

### 3.1.3 Gross Regional Domestic Bruto (GRDP)

GRDP in Central Java Province is mostly contributed by manufacturing industrial sectors from 2001 until 2003. Every year there is an increasing growth level at GRDP Central Java Province.

Tables 3.3  
Gross Regional Domestic Product Constant Market Price  
in Central Java Province 2001 – 2003 (Million Rupiahs)

| Sector                                      | Year                  |                       |                       |
|---------------------------------------------|-----------------------|-----------------------|-----------------------|
|                                             | 2001                  | 2002                  | 2003                  |
| 1. Agriculture                              | 26.417.424.36         | 27.725.086.08         | 27.157.595.62         |
| 2. Mining and Quarrying                     | 1.190.371.57          | 1.227.651.53          | 1.295.356.44          |
| 3. Manufacturing Industry                   | 37.164.561.05         | 39.193.652.64         | 41.347.172.12         |
| 4. Electricity, Gas and Water Supply        | 872.603.67            | 975.568.80            | 980.306.54            |
| 5. Construction                             | 5.532.343.12          | 6.116.817.45          | 6.907.250.46          |
| 6. Trade, Hotel and Restaurant              | 25.813.343.84         | 26.289.472.01         | 27.666.472.01         |
| 7. Transport and Communication              | 5.577.204.52          | 5.872.915.88          | 6.219.922.79          |
| 8. Financial Ownership and Business Service | 4.420.388.39          | 4.524.128.37          | 4.680.861.80          |
| 9. Services                                 | 11.828.159.77         | 11.112.677.79         | 12.941.524.67         |
| <b>Total GRDP</b>                           | <b>118.816.400.29</b> | <b>123.038.541.13</b> | <b>129.166.462.45</b> |

Sources: BPS-Statistic of Central Java Province

Tables 3.4  
 Percentage Distribution at Gross Regional Domestic Product  
 at Constant 2000 Market Price in Central Java  
 2000-2003

| Sector                                      | Year          |               |               |
|---------------------------------------------|---------------|---------------|---------------|
|                                             | 2001          | 2002          | 2003          |
| 1. Agriculture                              | 22.23         | 22.53         | 21.03         |
| 2. Mining and Quarrying                     | 1.00          | 1.00          | 1.00          |
| 3. Manufacturing Industry                   | 31.28         | 31.85         | 32.01         |
| 4. Electricity, Gas and Water Supply        | 0.73          | 0.79          | 0.76          |
| 5. Construction                             | 4.66          | 4.97          | 5.35          |
| 6. Trade, Hotel and Restaurant              | 21.73         | 21.37         | 21.42         |
| 7. Transport and Communication              | 4.69          | 4.77          | 4.82          |
| 8. Financial Ownership and Business Service | 3.72          | 3.68          | 3.60          |
| 9. Services                                 | 9.95          | 9.03          | 10.02         |
| <b>TOTAL GRDP</b>                           | <b>100.00</b> | <b>100.00</b> | <b>100.00</b> |

Sources: BPS-Statistic of Central Java Province

The biggest GRDP contributor is from manufacturing industries which has always improved every year from 2001 until 2003. Agricultural sector also have big contribution to the economic growth of Central Java Province, although there has also been degradation in the 2001 and 2003.

Tables 3.5

## Gross Regional Domestic Product at constant 2000 Market Price by Province

2001-2003 (Million Rupiahs)

| Province/Year             | 2001                 | 2002                 | 2003                 |
|---------------------------|----------------------|----------------------|----------------------|
| Nanggroe Aceh Darussalam  | 32.565.077           | 39.960.842           | 42.239.309           |
| Sumatera Utara            | 71.908.359           | 75.189.141           | 78.805.609           |
| Sumatera Barat            | 23.727.374           | 24.840.188           | 26.146.782           |
| Riau                      | 95.442.416           | 98.656.202           | 101.398.534          |
| Jambi                     | 10.205.592           | 10.708.650           | 11.250.992           |
| Sumatera Selatan          | 42.048.614           | 43.592.159           | 45.585.327           |
| Bengkulu                  | 5.070.102            | 5.310.017            | 2.589.130            |
| Lampung                   | 24.126.379           | 25.451.591           | 26.907.997           |
| Kepulauan Bangka Belitung | 6.103.270            | 6.409.268            | 6.727.117            |
| <b>Sumatera</b>           | <b>311.197.183</b>   | <b>330.118.058</b>   | <b>344.650.797</b>   |
| DKI Jakarta               | 238.673.000          | 250.348.044          | 263.651.008          |
| Jawa Barat                | 203.369.000          | 211.391.590          | 220.965.314          |
| Jawa Tengah               | 118.816.400          | 123.038.541          | 129.166.462          |
| DI Yogyakarta             | 14.056.321           | 14.689.240           | 15.361.277           |
| Jawa Timur                | 210.448.570          | 218.452.389          | 228.884.459          |
| Banten                    | 46.959.318           | 49.246.200           | 52.081.343           |
| <b>Jawa</b>               | <b>832.323.549</b>   | <b>867.166.004</b>   | <b>910.109.863</b>   |
| Bali                      | 17.879.875           | 18.423.861           | 19.080.896           |
| <b>Jawa dan Bali</b>      | <b>850.203.425</b>   | <b>885.589.865</b>   | <b>929.190.759</b>   |
| Kalimantan Barat          | 19.838.486           | 20.741.897           | 21.376.951           |
| Kalimantan Tengah         | 11.304.872           | 11.904.502           | 12.488.475           |
| Kalimantan Selatan        | 17.861.435           | 18.482.252           | 19.358.111           |
| Kalimantan Timur          | 86.348.106           | 87.850.397           | 89.483.540           |
| <b>Kalimantan</b>         | <b>135.352.899</b>   | <b>138.979.048</b>   | <b>142.707.078</b>   |
| Sulawesi Utara            | 10.996.587           | 11.322.275           | 11.649.856           |
| Sulawesi Tengah           | 9.089.908            | 9.600.364            | 10.196.750           |
| Sulawesi Selatan          | 32.334.905           | 33.659.125           | 35.426.050           |
| Sulawesi Tenggara         | 6.063.986            | 6.458.062            | 6.957.662            |
| Gorontalo                 | 1.554.100            | 1.653.845            | 1.767.375            |
| <b>Sulawesi</b>           | <b>60.039.486</b>    | <b>62.703.671</b>    | <b>65.997.693</b>    |
| Nusa Tenggara Barat       | 13.074.109           | 13.510.951           | 14.033.968           |
| Nusa Tenggara Timur       | 8.221.573            | 8.622.491            | 9.016.717            |
| Maluku                    | 2.768.291            | 2.847.739            | 2.970.466            |
| Maluku Utara              | 1.911.043            | 1.957.716            | 2.032.572            |
| Papua                     | 23.988.662           | 25.240.633           | 25.621.175           |
| <b>Others</b>             | <b>49.963.678</b>    | <b>52.179.530</b>    | <b>53.674.898</b>    |
| <b>West Part</b>          | <b>1.161.400.608</b> | <b>1.215.707.923</b> | <b>1.273.841.556</b> |
| <b>East Part</b>          | <b>245.356.064</b>   | <b>253.862.249</b>   | <b>262.379.669</b>   |
| <b>30 Province</b>        | <b>1.406.756.671</b> | <b>1.469.570.172</b> | <b>1.536.221.225</b> |

Sources: BPS- Statistic Indonesia

The existing Central Java Province in Java Island tend to has high Gross Regional Domestic Product (GRDP) level. From table 3.5 we can see that GRDP in Central Java Province is relatively high compared to others provinces in Java Island. GRDP of Central Java Province is increases every year from 2001 until 2003, 118.816.400 million rupiahs at year 2001, 123.038.541 million rupiahs at year 2002 and 129.166.462 million rupiahs at year 2003.

The condition of disparity which happened in Central Java Province is actually influenced by regional potency which owned by every area. So it makes a level of economic in some area become strike. From this disparity attract the attention from central government and area to immediately harmonize the development in some region which has low economic level, with improvement in Natural Resources and Human Resources and investment allocation. If this problem continues, the interregional disparity will be wide progressively.

In table 3.6 we can see that GRDP per capita of Central Java Province is relatively low in 2001, 2002 and 2003 compare to Java Island, but it significantly increases every year. If GRDP percapita of Central Java Province compare to Java Island is relatively low, but as whole is not really low.

Tables 3.6  
Gross Regional Domestic Product per Capita  
In Indonesia 2001-2003 (Rupiahs)

| Province/Year             | 2001             | 2002             | 2003             |
|---------------------------|------------------|------------------|------------------|
| Nanggroe Aceh Darussalam  | 2.318.250        | 2.294.701        | 2.339.760        |
| Sumatera Utara            | 2.112.587        | 2.170.958        | 2.238.592        |
| Sumatera Barat            | 1.908.133        | 1.979.050        | 2.056.074        |
| Riau                      | 4.369.793        | 4.374.112        | 4.391.288        |
| Jambi                     | 1.449.243        | 1.486.366        | 1.525.496        |
| Sumatera Selatan          | 1.743.781        | 1.768.059        | 1.805.957        |
| Bengkulu                  | 1.127.368        | 1.142.830        | 1.167.462        |
| Lampung                   | 1.091.619        | 1.134.763        | 1.185.733        |
| Kepulauan Bangka Belitung | 2.176.322        | 2.258.702        | 2.235.236        |
| <b>Sumatera</b>           | <b>2.087.293</b> | <b>2.129.813</b> | <b>2.186.820</b> |
| DKI Jakarta               | 7.389.845        | 7.675.398        | 8.002.894        |
| Jawa Barat                | 1.600.442        | 1.630.771        | 1.667.439        |
| Jawa Tengah               | 1.342.833        | 1.377.219        | 1.422.205        |
| DI Yogyakarta             | 1.650.654        | 1.705.551        | 1.763.586        |
| Jawa Timur                | 1.678.770        | 1.724.759        | 1.784.165        |
| Banten                    | 2.076.714        | 2.117.078        | 2.170.099        |
| <b>Jawa</b>               | <b>1.985.050</b> | <b>2.035.723</b> | <b>2.098.169</b> |
| Bali                      | 2.437.904        | 2.483.231        | 2.541.972        |
| <b>Jawa dan Bali</b>      | <b>1.996.516</b> | <b>2.047.055</b> | <b>2.109.409</b> |
| Kalimantan Barat          | 1.804.502        | 1.800.648        | 1.813.376        |
| Kalimantan Tengah         | 2.200.926        | 2.208.110        | 2.249.556        |
| Kalimantan Selatan        | 2.202.666        | 2.255.465        | 2.332.513        |
| Kalimantan Timur          | 9.331.236        | 9.508.476        | 9.474.895        |
| <b>Kalimantan</b>         | <b>3.614.565</b> | <b>3.674.815</b> | <b>3.706.698</b> |
| Sulawesi Utara            | 1.656.798        | 1.700.810        | 1.766.723        |
| Sulawesi Tengah           | 1.124.004        | 1.155.793        | 1.198.189        |
| Sulawesi Selatan          | 1.298.366        | 1.339.082        | 1.391.383        |
| Sulawesi Tenggara         | 941.134          | 972.155          | 1.010.917        |
| Gorontalo                 | 1.143.735        | 1.198.750        | 1.216.612        |
| <b>Sulawesi</b>           | <b>1.267.738</b> | <b>1.306.177</b> | <b>1.356.661</b> |
| Nusa Tenggara Barat       | 1.169.389        | 1.192.533        | 1.208.263        |
| Nusa Tenggara Timur       | 798.938          | 833.352          | 868.602          |
| Maluku                    | 1.096.982        | 1.128.969        | 1.167.737        |
| Maluku Utara              | 1.185.598        | 1.206.111        | 1.238.012        |
| Papua                     | 3.591.042        | 3.783.765        | 3.776.810        |
| <b>Others</b>             | <b>1.500.320</b> | <b>1.566.766</b> | <b>1.594.611</b> |
| West                      | 2.020.031        | 2.068.582        | 2.129.628        |
| East                      | 2.038.765        | 2.094.678        | 2.134.761        |
| <b>30 Province</b>        | <b>2.023.516</b> | <b>2.073.456</b> | <b>2.130.591</b> |

Sources: BPS, Statistic Indonesia

### 3.1.4 Inflation

Inflation information is an economic stability measurement in a region. Inflation rate of Semarang in 2003 is relatively smaller 6,07% than the year before which equal to 13,56% in the year 2002 and 13,93% in the year 2001.

Tables 3.7  
Inflation Rate in Central Java  
2000-2003

| <b>Expenditure Group /Year</b>                   | <b>2000</b> | <b>2001</b> | <b>2002</b> | <b>2003</b> |
|--------------------------------------------------|-------------|-------------|-------------|-------------|
| Food                                             | 2.53        | 18.47       | 6.00        | -1.25       |
| Prepared Food, Soft Drink, Cigarette and Tobacco | 10.07       | 13.72       | 10.08       | 5.35        |
| Housing                                          | 11.24       | 15.11       | 22.75       | 11.07       |
| Clothing                                         | 12.13       | 5.67        | 4.99        | 2.38        |
| Health                                           | 5.96        | 8.23        | 2.52        | 1.56        |
| Education, Recreation and Sports                 | 13.27       | 9.03        | 23.32       | 21.63       |
| Transportation and Communication                 | 13.71       | 11.40       | 19.15       | 1.58        |
| General                                          | 8.73        | 13.98       | 13.56       | 6.07        |

Sources: BPS, Statistic Indonesia

High inflation rate in Semarang in 2001 has been influenced by the increasing of group index of food expenditure which cumulatively reach 18,47%, while cumulative increase of index for prepared food, soft drink, cigarette and tobacco equal to 13,72%. Housing expenditure is equal to 15.11%. Clothing expenditure is equal to 5,67%. Health expenditure is equal to 8,23%, the expenditure of education, recreation and sport is equal to 9,02% and also expenditure of transportation and communication is equal to 11,40%.

The recovery of economic level has continued until 2003 which has reached to the level of 6,07% and the smallest inflation rate by food expenditure is equal to -1,25% and cumulative national inflation is equal to 6,07%.

The inflation rate in Semarang town compared to the inflation rate in five other big cities in Java Island reach the highest value in 2002 equal to 13,56% and in 2003 equal to 6,07%.

Tables 3.8  
Inflation Rate 5 Big Cities in Indonesia  
2000-2003

| City/year  | 2000  | 2001  | 2002  | 2003 |
|------------|-------|-------|-------|------|
| Jakarta    | 10,29 | 11,52 | 9,08  | 5,78 |
| Bandung    | 8,52  | 11,91 | 11,97 | 5,69 |
| Semarang   | 8,73  | 13,93 | 13,56 | 6,07 |
| Yogyakarta | 7,32  | 12,56 | 12,01 | 5,73 |
| Surabaya   | 10,46 | 14,13 | 9,15  | 4,79 |

Sources: BPS, Statistic Indonesia

### 3.1.5 Financial Area

The government Income and Expenditure Budget (APBD) is based on dynamic and proportional balanced principle. Monetary policy in level area is always try to improve the area receipts especially from local government original receipts which is adapted for base, target and development priority in order to reach development target. In the principle, these local expenditure budgets express the area potency which is to the importance of routine expenditure expense and

the development of government expenditure income budget. It is beneficial for monitoring execution and activity of development area and also for government expenditure budget planning in the future.

Budget Surplus in each year is:

2000 : 86.297.536.000                      2002 : 426.091.818.000  
2001 : 227.875.063.000                      2003 : 412.961.689.000

The surplus increases continually in 2000 until 2002, and then in 2003 the depreciation occurs although still in budget surplus condition.

Tables 3.9  
Government Income Budget in Central Java  
2000-2003 (000 Rupiahs)

| Receipts Item/Year                  | 2000               | 2001               | 2002                 | 2003                 |
|-------------------------------------|--------------------|--------------------|----------------------|----------------------|
| <b>Previous Year Surplus</b>        | <b>86.297.536</b>  | <b>227.875.063</b> | <b>426.091.818</b>   | <b>412.961.689</b>   |
| <b>Local Gov.Original Receipts</b>  | <b>474.210.349</b> | <b>830.974.156</b> | <b>1.242.709.462</b> | <b>1.462.746.761</b> |
| Local Taxes receipts                | 392.164.842        | 694.654.887        | 1.024.176.921        | 1.212.439.370        |
| Retributions Receipts               | 40.252.030         | 64.492.014         | 97.303.842           | 114.128.482          |
| Retributions of Public services     | 24.476.647         | 44.636.679         | 64.204.053           | 76.774.695           |
| Retributions of Commercial Services | 15.221.893         | 19.370.114         | 32.134.860           | 36.330.872           |
| Retributions Specific Permit        | 553.490            | 485.221            | 964.929              | 1.022.915            |
| Local Gov. Corporate Profit         | 2.487.000          | 8.646.934          | 7.007.144            | 11.042.163           |
| Other Local Gov.Original Receipts   | 39.306.477         | 63.180.321         | 114.221.555          | 125.136.746          |
| <b>Balanced Budget</b>              | <b>521.123.560</b> | <b>875.304.113</b> | <b>912.165.764</b>   | <b>908.087.958</b>   |
| Tax Share                           | 46.878.951         | 112.677.241        | 149.909.785          | 180.571.779          |
| Non Tax Share                       | 8.364.056          | 7.285.120          | 7.420.730            | 10.112.691           |
| General Allocation Funds            | 465.880.553        | 647.752.326        | 560.630.000          | 509.870.000          |

|                          |                      |                      |                      |                      |
|--------------------------|----------------------|----------------------|----------------------|----------------------|
| Special Allocation Funds | 0                    | 107.589.426          | 0                    | 73.985.430           |
| Other Receipts           | 0                    | 0                    | 194.205.249          | 133.548.058          |
| Local Government Loans   | 0                    | 0                    | 0                    | 0                    |
| <b>Total</b>             | <b>1.081.631.445</b> | <b>1.934.153.332</b> | <b>2.580.967.044</b> | <b>2.783.796.408</b> |

Sources: APBD

Tables 3.10  
Government Expenditure Budget in Central Java  
2000-2003 (000 Rupiahs)

| Kind of Expenditure               | 2000               | 2001                 | 2002                 | 2003                 |
|-----------------------------------|--------------------|----------------------|----------------------|----------------------|
| Personnel Current Expenditure     | 290.435.059        | 460.682.762          | 346.365.680          | 564.415.369          |
| Material Current Expenditure      | 83.854.998         | 116.433.723          | 209.105.848          | 244.482.178          |
| Repair & Maintenance Current Exp. | 17.120.762         | 61.308.690           | 44.594.062           | 72.828.488           |
| Official Travel exp.              | 5.968.328          | 1.318.881            | 17.414.426           | 12.052.163           |
| Debt & Interest Repayment         | 48.171.208         | 72.080.582           | 129.839.909          | 301.409.187          |
| Financial Aids                    | 818.151            | 1.033.681            | 1.999.485            | 1.442.958            |
| Other Current Exp.                | 47.582.768         | 327.657.160          | 405.159.193          | 399.255.951          |
| Unpredicted Current Expenditure   | 28.430.331         | 67.667.483           | 103.760.047          | 117.332.573          |
|                                   | 20.567.142         | 16.340.876           | 39.850.831           | 10.890.353           |
| <b>Total</b>                      | <b>542.948.747</b> | <b>1.124.523.838</b> | <b>1.298.089.481</b> | <b>1.754.109.220</b> |

Sources: APBD

### 3.1.6 Labor

According to the Statistical Center (BPS), labor forces consist of people at the age more than 10 years. Their primary activities are housekeeping, attending school and others, or they who cannot execute working activity is classified not in labor force.

Tables 3.11

## Population Aged 10 Years and Over and Type of Activity

In Central Java 2000-2003

| Type of Activity/year      | 2000              | 2001              | 2002              | 2003              |
|----------------------------|-------------------|-------------------|-------------------|-------------------|
| <b>Labor Force</b>         | <b>15.735.322</b> | <b>15.644.732</b> | <b>15.735.322</b> | <b>16.108.778</b> |
| Working                    | 14.491.222        | 16.066.542        | 14.751.088        | 15.196.285        |
| Seeking Work               | 637.900           | 578.190           | 984.234           | 912.513           |
| <b>Not in Labour Force</b> | <b>25.301.836</b> | <b>25.392.529</b> | <b>25.965.534</b> | <b>26.483.217</b> |
| Attending School           | 4.235.206         | 4.417.078         | 4.629.232         | 4.538.923         |
| Housekeeping               | 3.776.897         | 3.625.404         | 3.894.417         | 4.096.482         |
| Others                     |                   |                   |                   |                   |
| Sub Total                  | 2.160.611         | 1.705.315         | 1.706.563         | 1.739.034         |
| <b>Total</b>               | <b>10.172.714</b> | <b>9.747.797</b>  | <b>10.230.212</b> | <b>10.374.439</b> |

Sources: National Socio Economic Survey, BPS-Statistic Indonesia

From the data above there are increasing in the amount of labor force in 2002 and the amount of job searchers also increase compared to 2001. It is because high amount disconnections of job relation (PHK) because of instability economic system.

The increasing that happened at status not in labor force, which is increasing in attending school up to year 2002 and then decrease in 2003, is because some of societies tend to choose housekeeping than attending school.

### 3.1.7 Regional Minimum Wage

The Regional Minimum Wage (UMR) is a measurement concerning worker payment during one month in the selected region.

Tables 3.12

#### Regional Minimum Wage in Central Java

2000-2003

| Year                  | 2000    | 2001    | 2002    | 2003    |
|-----------------------|---------|---------|---------|---------|
| Regional Minimum Wage | 235.750 | 270.206 | 314.500 | 340.400 |

Sources: Main Power and Transmigration service of Central Java province

The Regional Minimum Wage also can show the level of worker prosperity by looking at how much payment he/she get.

### 3.1.8 Prosperity Level of Society

There are some measurements to see the prosperity level in society, namely:

1. Composition of household expenditure for food and non food
2. Requirement of minimum life (KHM)
3. The number of school participation

#### 3.1.8.1 Composition of household expenditure for food and non food

This measurement shows the society consumption in one month.

Tables 3.13  
Per Capita Monthly Expenditure in Central Java  
2001-2003

| Average Monthly Expenditure | 2001   | 2002   | 2003    |
|-----------------------------|--------|--------|---------|
| 1. Food                     |        |        |         |
| - Value (Rp)                | 77.828 | 95.293 | 105.595 |
| - Contributions (%)         | 63,89  | 61,00  | 61,29   |
| 2. Non Food                 |        |        |         |
| - Value (Rp)                | 43.987 | 60.925 | 66.693  |
| - Contributions (%)         | 36,11  | 39,00  | 38,71   |

Sources: National Socio Economic Survey, BPS-Statistic Indonesia

The expenditure contributions on food tend to increase in 2001 if compared to 2002. This is because inflation rate in food expenditure. On the contrary, in 2003 the household expenditure has been decreasing for contribution of non food expenditure and income which is gets by society is mostly used for consumption on food. It is because economic condition, whereas people become wiser in considering buying goods for their life.

#### 3.1.8.2 Requirement of Minimum Life (KHM)

The Requirement of Minimum Life criterion shows the minimum need during one month from a worker. The value is determined through a formulation based on the worker minimum requirement of goods and services. The goods and services consist of food and beverages, gasoline, housing and kitchen's ware.

Tables 3.14

## Requirement of Minimum Life in Central Java

2000-2003

| Year                        | 2000    | 2001    | 2002    | 2003    |
|-----------------------------|---------|---------|---------|---------|
| Requiemment of Minimum Life | 185.000 | 245.000 | 345.604 | 387.121 |

Sources: Main Power and Transmigration service of Central Java province

It can be seem from the table that the worker requirement from every year is increasing progressively.

### 3.1.8.3 The Number of School Participation

The prosperity of some region can be seen from the fulfillment of education level of someone in age more than 10 year. Based on the table, the biggest population in Central Java Province is elementary school graduation. Thus, because of the successful program from government in compulsory education from all productive age, the number of graduate in Central Java increases. Another case shows that female students tend to not Schooling and did not complete/not yet completed primary school. But for the highest education, male are more capable to finish their education until college.

Tables 3.15

Population Aged 10 Years and Above by Education Attainment and Sex

In Central Java 2001

| <b>Educational Attainment</b> | <b>Male</b> | <b>Female</b> | <b>Total</b> |
|-------------------------------|-------------|---------------|--------------|
| No Schooling                  | 990.212     | 2.363.949     | 3.354.161    |
| Did not Complete/Not Yet      |             |               |              |
| Complete Primary School       | 3.123.082   | 3.121.124     | 6.244.206    |
| Primary School                | 4.493.128   | 4.334.495     | 8.827.623    |
| Junior High School            | 1.884.694   | 1.623.406     | 3.608.102    |
| Senior High School            | 1.602.774   | 1.158.416     | 2.761.190    |
| Diploma I/II/III              | 191.358     | 168.318       | 359.676      |
| Diploma IV/S1/S2/S2           | 208.491     | 129.080       | 337.571      |

Sources: National Socio Economic Survey, BPS-Statistic Indonesia

Tables 3.16

Population Aged 10 Years and Above by Education Attainment and Sex

In Central Java 2002

| <b>Educational Attainment</b> | <b>Male</b> | <b>Female</b> | <b>Total</b> |
|-------------------------------|-------------|---------------|--------------|
| No Schooling                  | 808.078     | 2.089.363     | 2.897.441    |
| Did not Complete/Not Yet      |             |               |              |
| Complete Primary School       | 3.054.123   | 3.110.323     | 6.164.446    |
| Primary School                | 4.683.523   | 4.520.465     | 9.204.288    |
| Junior High School            | 2.095.401   | 1.755.376     | 3.850.777    |
| Senior High School            | 1.727.686   | 1.263.463     | 2.991.149    |
| Diploma I/II/III              | 238.506     | 219.758       | 458.264      |
| Diploma IV/S1/S2/S2           | 237.764     | 161.405       | 399.169      |

Sources: National Socio Economic Survey, BPS-Statistic Indonesia

### **3.2 Research Method**

In this data the discussion covers:

1. Source and type of data
2. Analysis tools of income distribution

#### **3.2.1 Source and Type of Data**

The data which is used in this research is secondary data published by Statistical Center (BPS) Central Java Province year of 2001, 2002 and 2003.

National Economic Social Survey (SUSENAS) is a household survey including a various target such as consumption expenditure, education, health, socio culture, criminal and also housing and environments. In generals the goal of collecting data trough SUSENAS is to get an indicator to access development result, especially in assessing the society prosperity level. The purpose of collecting consumption and expenditure data is to give detailed information which able to be used as basic plan for various consumption problems in Indonesia.

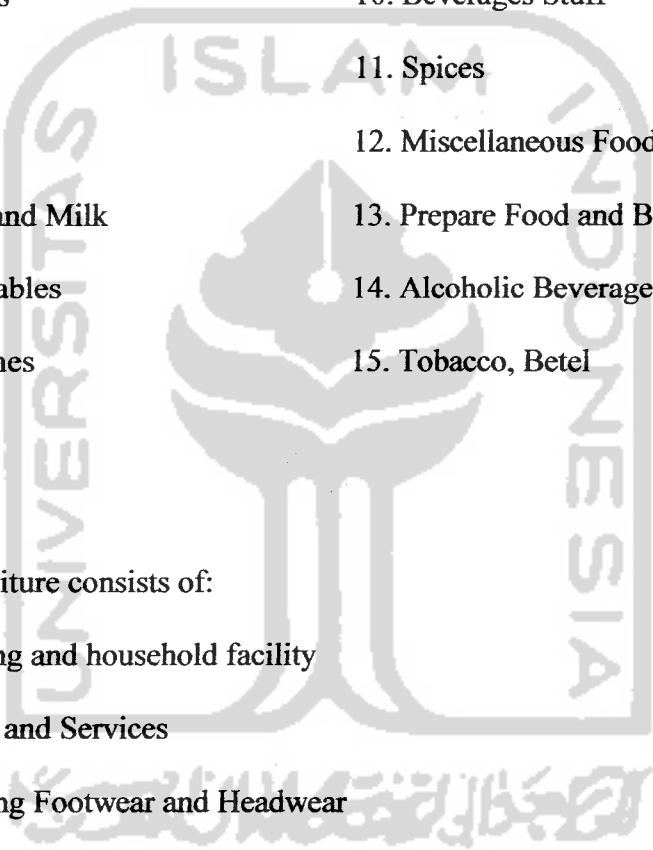
From consumption data, we can know the expenditure pattern in society, the level of expenditure inequality, the number of sufficiency energy and protein consumption and also various indicators to show the society prosperity level. SUSENAS is one of the Statistical Center publications which give a picture totally regarding the consumption pattern of society in Central Java province.

The data which is needed in analyzing income distribution compose from:

1. Population
2. Monthly expenditure per Capita

Monthly Expenditure per Capita consists of food expenditure and non food expenditure.

Food expenditure consists of:

- 
- |                  |                                |
|------------------|--------------------------------|
| 1. Cereals       | 9. Oil and Fats                |
| 2. Tubers        | 10. Beverages Stuff            |
| 3. Fish          | 11. Spices                     |
| 4. Meat          | 12. Miscellaneous Food Item    |
| 5. Eggs and Milk | 13. Prepare Food and Beverages |
| 6. Vegetables    | 14. Alcoholic Beverages        |
| 7. Legumes       | 15. Tobacco, Betel             |
| 8. Fruits        |                                |

Non Food expenditure consists of:

1. Housing and household facility
2. Goods and Services
3. Clothing Footwear and Headwear
4. Durable Goods
5. Taxes and Insurance
6. Parties and Ceremonies

SUSENAS data is a sample which is taken from all regions in Central Java Province, consisting 29 regencies and 6 cities.

### 3.2.2 Analysis Tools of Income Distribution

3.2.2.1 The calculation method of Relative distribution among group to calculate income distribution used calculation method which consists of:

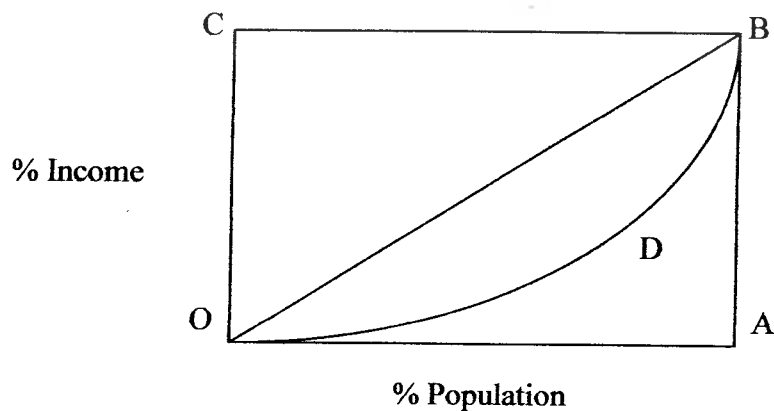
1. Lorenz Curve
2. Gini Coefficient
3. Kuznets Index
4. Oshima Index
5. Relative Inequality

#### 3.2.2.1.1 Lorenz Curve

The utilization of more informative picture to explain the happening of income distribution which unequal is found by C. Lorenz in 1905. Lorenz found a curve which show that distributed at existing population.

Figures 3.1

Lorenz Curves

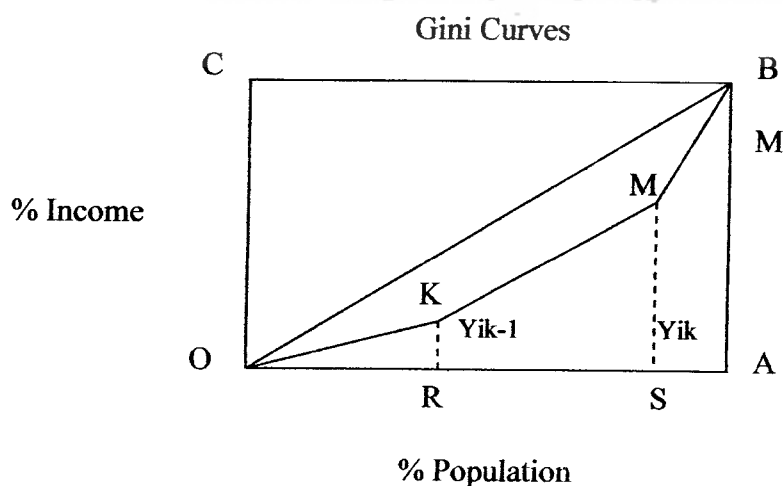


The picture shows Lorenz Curve in where the vertical line (OC) is the percentage of cumulative income, while horizontal line (OA)) is the percentage of cumulative population. Diagonal line (OB) shows the perfect equal line. The condition of this line is the percentage of cumulative income is equal to the percentage of cumulative population. The bend curve D (ODB) is line showing the level of income distribution, in where if this bend curve become close to the diagonal line (OB), it means low level of inequality, but if this bend curve become close to the triangle (OAB), it means that the inequality level is high. Ideally the bend curve (ODB) is between diagonal line (OB) and triangle (OAB).

#### 3.2.2.1.2 Gini Coefficient

Found by C. Gini in 1912, it is a development from Lorenz curve which already exist by comparing the area between diagonal (OB) with the bend line (ODB) and divided with the triangle area (OAB). From those description it can be formulated as follows:

Figures 3.2



The picture explains  $RS = P_i$   $RK = Y_{ik-1}$   $SM = Y_{ik}$

Trapezium of RSMK is  $\frac{1}{2} P_i (Y_{ik} + Y_{ik-1})$  and the total area below lorenz curve is  $\frac{1}{2} P_i (Y_{ik} + Y_{ik-1})$ .

The value of Gini coefficient is in the area between diagonal line (OB) and bend curve (ODB) mathematically shown in the equation as follows :

**Gini Coefficient**

$$1 - \sum_{i=1}^k P_i (Y_{ik} + Y_{ik-1})$$

Where:

- $P_i$  = Percentage of population cumulative in class i  
 $Y_{ik}$  = Percentage of income cumulative in class i  
 $K$  = Number of class

The amount of population can be divided in 5 classes, that is:

- 20% poorest
- 20% second
- 20% third
- 20% fourth
- 20% richest

After the value of Gini coefficient is already obtained, then that value can be analyzed as following:

- If Gini coefficient equals to 0 hence the inequality of income distribution is low or perfect equally, it means that the percentage of income cumulative equal to the percentage of population cumulative. The income is accepted by all society factions.
- If Gini coefficient equals to 1 hence the inequality of income distribution is high or perfect unequally. The income only distributed by only one society factions.

To know the inequality level of income distribution from Gini coefficient used by World Bank criterion, that is:

1. High inequality if Gini coefficient range from 0,5% until 0,70 %
2. Middle inequality if Gini coefficient range from 0,36% until 0,49%
3. Low inequality if Gini coefficient range from 0,20% until 0,35%

#### 3.2.2.1.3 Kuznets Index

Kuznets Index actually is a modification from Gini Coefficient. Kuznets Index can be calculated with a formulation as follows:

**Kuznets Index**

$$KI = \sum_{i=1}^k |P_i - Y_i|$$

Where:

$P_i$  = Proportion of population/household in class  $i$

$Y_i$  = Proportion of income in class  $i$

$K$  = Number of income classes

If income distribution is equal, so  $f_i = Y_i$  in all income classes so that  $KI = 0$  and in extreme condition if all income only receive by one people or one group, the value of  $KI$  become close to 2.

Kuznets index is more stress on their observation for only 10% population of upper group and those groups as a cause of income inequality. Therefore, income proportion of 1% population of upper group is said to unequal if 10% upper population accepted more than 40 % from all income.

#### 3.2.2.1.4 Oshima Index

Oshima Index is an adjustment of Kuznets index by only dividing 10 income class groups. Highest value of Kuznets will come near to 1,8 therefore Oshima index only divided Kuznets index with the number of 1,8, hence will be obtained the value of Oshima index between 0 and 1. And Oshima index can be formulated as follows:

**Oshima Index**

$$\frac{10}{1,8} * \sum_{i=1}^{10} |P_i - Y_i|$$

In Oshima index there are some kindnesses of accurate information at inequality degree because all income groups are included in calculation. While the weakness of Oshima index is insensitivity of change that happened in low income level or high except in the middle income level.

As for criterion of income distribution which is specified by Harry.T

Oshima is:

- Low inequality, if Oshima Index less than 0,35
- Middle inequality, if Oshima Index between 0,35 until 0,5
- High inequality, if Oshima Index more than 0,5

#### 3.2.2.1.5 Relative Inequality

Income distribution pattern in society which based on Gini Coefficient analysis, exactly show the inequality of income distribution as globally. How far or how many parts which obtained by poor society are unclear. To give clearer picture, inequality indicator relative is used. Relative inequality is interpreted as poverty relative measurement from society.

As for inequality criterion relative is:

- High inequality if low society group accept less than 12% from National Income (GNP)
- Middle inequality if low society group accept between 12%-17% from National Income (GNP)
- Low inequality if low society group accept more than 17% from National Income (GNP)

#### 3.2.2.2 Statistical Method Approach

The measurement of income distribution is frequency method and coefficient variation if income distribution.

### 3.2.2.2.1 Frequency Distribution

A distribution calculation measurement is by compose a selected distance or some range which the classes of income and the number of individual or household that in the class.

### 3.2.2.2.2 Coefficient Variation of Income Distribution

A distribution calculation as dispersions is by using coefficient variation of income distribution analysis. Coefficient of variation is a comparison the level of two variations or some distribution mean which shall be used as base measurement of variation as relatively.

$$\text{Coefficient of Variation} = R/X \quad \text{or}$$

$$\text{Coefficient of Variation} = \frac{(\sqrt{E F * ((M-N)^2)/N})}{X}$$

Where :

R = Standard Deviation from Frequency data

F = Frequency of Each Class

Mi = Middle Value

N = Number of Data

X = Average Value of Expenditure

Coefficient of Variation value showing the height of income distribution lameness are low if the value of coefficient of variation which closer to 0, and low income distribution lameness is  $\sqrt{n-1}$  where n is the number of class interval in this calculation dispersion, in principle for some part it can be used to spreading measurement generalization, but calculation with coefficient of variation is less satisfied because less practical and many weakness.



## **CHAPTER IV**

### **RESEARCH FINDING, DISCUSSION AND IMPLICATION**

In analyzing income distribution, the writer uses National Economic and Social Survey data with expenditure approach as income approach. Analyzing the income distribution is uses Gini Coefficient, Kuznets Index, Oshima Index, Relative Inequality and Statistical Method Approach by using Coefficient Variation of Income Distribution. Each of this calculation has a goodness and weakness. Therefore, using this five calculation method is to lessen the weakness of each method.

#### **4.1 The Calculation Method of Relative distribution**

##### **4.1.1 Gini Coefficient**

Gini Coefficient is one of very common measurement used by researchers; this method is used to measure income distribution inequality level in income distribution research. The writer uses different range of time from 2001 until 2003.

Tables 4.1

Gini Coefficient in Central Java Province

2001-2003

| Year             | 2001   | 2002   | 2003   |
|------------------|--------|--------|--------|
| Gini Coefficient | 0,2524 | 0,2683 | 0,2507 |

Sources: Appendices 1,2,3

It is seen that the value of Gini Coefficient in 2001 equal to 0,2524, this indicate the inequality criterion for income distribution is low. The value of Gini Coefficient in 2002 equal to 0,2683 indicating that inequality level of income distribution is low. This can be understood that the equalization of income distribution in Central Java Province is relatively high, and the value of Gini coefficient in 2003 as 0,2507 indicating that income distribution inequality in 2003 is low. This picture shows that the income which obtained by society coming from various group, relative does not have so many differences.

If we compare the result of this thesis by secondary data from the research done before, the result shows that the similar number and that the level of inequality income distribution in Central Java Province is relatively low. From the tables 4.2 we can see that the inequality of income distribution in Central Java Province in 1998-2000 is show the similar result which indicates low inequality of income distribution. This is because of unstably economic condition such as economic crisis, tragedy WTC 11 September 2001 and Bomb Bali in 12 October 2002.

Tables 4.2

Gini Coefficient in Central Java Province

1998-2000

| Year             | 1998   | 1999   | 2000   |
|------------------|--------|--------|--------|
| Gini Coefficient | 0,2530 | 0,2601 | 0,2495 |

Sources: Pemerataan Pendapatan Kabupaten Jepara 2000

Expenditure data used as income approach actually contains of some weakness. The expenditure data assumes that saving and debt is zero. Saving is not counted in expenditure data which is included in element of income. The saving proportion from low income society generally is very small or possibly to zero.

#### 4.1.2 Kuznets Index

Different from Gini Coefficient, Kuznets Index gives more attention to the percentage of income for 10% upper society, where if 10% upper income group accepting more than 40% from the number of income, meaning that income distribution inequality is high.

Tables 4.3

#### Kuznets Index in Central Java Province

2001-2003

| Year          | 2001   | 2002   | 2003   |
|---------------|--------|--------|--------|
| Kuznets Index | 0,3443 | 0,4010 | 0,3585 |

Sources: Appendices 4, 5, 6

The income distribution inequality in Central Java Province included in low criterion in 2001 with the value of Kuznets index as 0,3443. In 2002, income distribution inequality is higher because Kuznets index increase as 0,4010 but still include in low inequality level. In 2003 is low inequality, because Kuznets index value which is obtained equal to 0,3585, this value of Kuznets index is lower than 2002.

#### 4.1.3 Oshima Index

Oshima Index is one of index used to complete Kuznets index which is less paying attention to the middle class group from existing income. This Oshima index show the inequality rank which is same with Kuznets index, the benefit of Oshima index is the value of inequality even in the small things.

Tables 4.4  
Oshima Index in Central Java Province  
2001-2003

| Year         | 2001   | 2002   | 2003   |
|--------------|--------|--------|--------|
| Oshima Index | 0,1913 | 0,2228 | 0,1992 |

Sources: Appendices 7, 8, 9

From the tables above, the value of Oshima Index in 2001 is equal to 0,1913 this can be categorized as low income distribution inequality. In 2002 the value of Oshima index equal to 0,2228, this can be categorized as low income distribution inequality. And for 2003, the value of Oshima Index also can be categorized in low distribution inequality level with Oshima index equal to 0,1992.

#### 4.1.4 Relative Inequality

Relative inequality is some calculation method which use to overcome the weakness from Gini Coefficient, Kuznets Index and Oshima Index which only emphasizing at only selected income society group. This relative inequality is

used to analyze the result of National Economic Social Survey. The result of relative calculation is based on income deciles which can be adapted to make analysis if income distribution condition according to World Bank criterion. The division of this relative inequality is based on the population division in 40% lowest income, 40% middle income and 20% highest income.

Tables 4.5  
Relative Inequality in Central Java Province  
2001-2003

| Criteria/Year | 2001   | 2002   | 2003   |
|---------------|--------|--------|--------|
| 40% Poorest   | 24,94% | 25,02% | 25,31% |
| 40% Middle    | 37,85% | 36,46% | 38,37% |
| 20% Richest   | 37,21% | 38,52% | 36,32% |

Sources: Appendices 10, 11, 12

From the table above, in 2001, 40% lowest income society obtained 24,94% from national income, the inequality that happened is including to low criterion. In 2002, 40% lowest income society obtained 25,02% from national income, the relative inequality which happened including in low criterion and in 2003, 40% lowest income society accepted 25,31% from national income, so the relative inequality which happened is low criterion also.

In 2001, 2002 and 2003 income transfer from 20% high society income is seen only circulating just at their environment. This can be know with seeing the transfer for 40% low income society which relatively stabile and indicate low income distribution inequality level.

The income distribution calculation with calculation method of relative distribution seen the low distribution inequality level in 2001 and although there are increasing in 2002 and 2003, but income distribution still can be categorized in low inequality level.

#### 4.2 Statistical Method Approach

In coefficient variation of Income Distribution, the income distribution equalization is good progressively from 2001 to 2002, the value from coefficient of variation that already obtained in 2001 is equal to 0,3803 and in 2002 equal to 0,3675. This show the inequality level which good progressively.

Tables 4.6

Coefficient variation of Income Distribution in Central Java Province  
2001-2003

| Year                     | 2001   | 2002   | 2003   |
|--------------------------|--------|--------|--------|
| Coefficient of variation | 0,3808 | 0,3675 | 0,4027 |

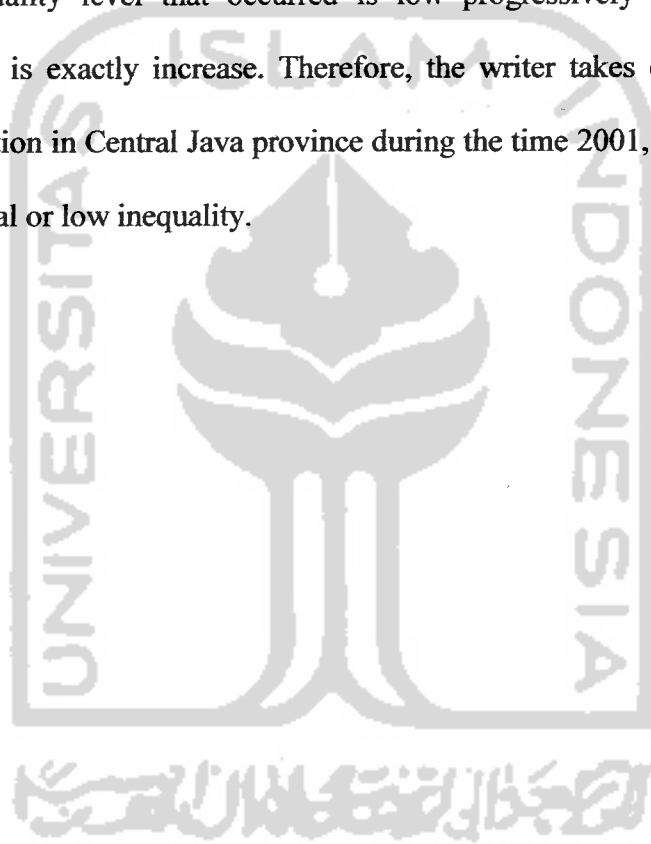
Sources: Appendices 13, 14, 15

In 2003, income distribution inequality according to coefficient of variation known that inequality that occurs is low. Analyzing with this statistical method is obtained same with calculation method of relative distribution because in 2003 the distribution inequality level is low.

From calculation method of relative distribution known that income distribution inequality in 2001 include in low criterion and also in 2002 and 2003,

although increasing occurred in 2002 but as a whole the income distribution inequality level in Central Java Province include in low criterion.

While if pay attention on the calculation with statistical method seen that income distribution inequality level in 2001 included in low criterion, in 2002 seen that inequality level that occurred is low progressively while in 2003 inequality level is exactly increase. Therefore, the writer takes conclusion that income distribution in Central Java province during the time 2001, 2002 and 2003 is relatively equal or low inequality.



## CHAPTER V

### CONCLUSION AND RECOMMENDATIONS

#### 5.1 Conclusion

Based on the income distribution analysis in Central Java Province, it can be concluded as follows:

Tables 5.1

#### Analysis Tables of Income Distribution

In Central Java 2001-2003

| Method/Year                                  | 2001   | 2002   | 2003   |
|----------------------------------------------|--------|--------|--------|
| Gini Coefficient                             | 0,2524 | 0,2683 | 0,2507 |
| Kuznets Index                                | 0,3443 | 0,4010 | 0,3585 |
| Oshima Index                                 | 0,1913 | 0,2228 | 0,1992 |
| Relative Inequality                          | 24,64% | 25,02% | 25,31% |
| Coefficient Variation of Income Distribution | 0,3808 | 0,3675 | 0,4027 |

Tables 5.2

#### Criteria Analysis Tables of Income Distribution

In Central Java 2001-2003

| Method/Year                                  | 2001 | 2002 | 2003 |
|----------------------------------------------|------|------|------|
| Gini Coefficient                             | Low  | Low  | Low  |
| Kuznets Index                                | Low  | Low  | Low  |
| Oshima Index                                 | Low  | Low  | Low  |
| Relative inequality                          | Low  | Low  | Low  |
| Coefficient Variation of Income Distribution | Low  | Low  | Low  |

The calculation method shows that income distribution inequality in Central Java Province in the year 2001 is in low criterion and in the year 2002 there are increasements although still included in low criterion. Thus, in the year 2003 there is decreasing of inequality level or goes to high equalization.

There may be two causes which make inequality increase in 2002, either the rich getting richer or the poor become poorer. After collect the data about those years, the writer found the big event such as Bomb Bali in 12 October 2002. As we know that Bali related to Pekalongan in garment ex trade. So it make economic condition became unstably. In this case the inequality is bigger because the poorer became poorer.

Using the calculation on statistical method it can be seen that the inequality level of income distribution in 2001 included in low criterion. In the 2002 seen that the inequality became lower and in 2003 the inequality that happened exactly increase.

Tables 5.3

Average Analysis Tables of Income Distribution

In Central Java 2001-2003

| Method/Year                                  | Average | Criteria |
|----------------------------------------------|---------|----------|
| Gini Coefficient                             | 0,2571  | Low      |
| Kuznets Index                                | 0,3679  | Low      |
| Oshima Index                                 | 0,2044  | Low      |
| Relative Inequality                          | 25,09%  | Low      |
| Coefficient Variation of Income Distribution | 0,3837  | Low      |

Referring from the analysis calculation income distribution above, it can be seen that the hypotheses are not true, namely:

1. That the size of Gini Coefficient, Kuznets Index, Oshima index, Inequality Relative and Coefficient Variation of Income Distribution in Central Java Province are big as supposed to high regional income but high poverty level.
2. That based on the first hypothesis, income distribution in Central Java Province is relatively unequal.

The Central Java Province has several characteristics as follows:

1. High Population
2. Gross Regional Domestic Product is high
3. Gross Regional Domestic Product per Capita is low
4. High poverty

Based on research result we can conclude that people of Central Java Province which has high GRDP but high population live in poverty and low of inequality of income distribution, generally live in poverty and it is caused by huge number of population.

## 5.2 Recommendations

Based on this research, it can be conclude that the problem of economic well being in Central Java Province is not caused by income distribution but merely by huge number of population.

For that reason the effort that must be done by government has to be focused on helping the people economic weel being, such as either through transmigration to decreasing the population or by providing labour intensive project to absorbed unemployment. In all to be directed to alleviate poverty in Central Java Province.

It is understood that transmigration is easy not as the old era when Indonesia was still relatively centralized government system. In this otonomi era moving population accros region need to be discuss by the leader of those region. Sometimes they need to realized the bargaining position that they can offer to the other parties. For Example, suppose Central Java Province want to transmigrate population to Kalimantan, Central Java could offer its prominent universities to the people to Kalimantan to studies or called "PBUD (Penanaman Bibit Unggul Daerah)"

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Pemerataan Pendapatan Kabupaten Jepara 2000., Jawa Tengah., BPS



## APPENDICS 1

Gini Coefficient in Central Java Province

2001

| Expenditure      | Population | Average Expenditure | Total Expenditure | Pi      | Pik     | Yi      | Yik     | Pi*(Yik+Yik-1) |
|------------------|------------|---------------------|-------------------|---------|---------|---------|---------|----------------|
| Less than 30.000 | 1.070      | 18.897              | 20.238.687        | 0,0035  | 0,0035  | 0,0006  | 0,0006  | 0,0000         |
| 30.000-39.999    | 62.202     | 37.591              | 2.338.235.382     | 0,2002  | 0,2037  | 0,0618  | 0,0624  | 0,0126         |
| 40.000-59.999    | 1.720.302  | 53.306              | 91.702.418.412    | 5,5380  | 5,7417  | 2,4232  | 2,4858  | 14,1119        |
| 60.000-79.999    | 5.701.700  | 71.075              | 405.248.327.500   | 18,3548 | 24,0965 | 10,7094 | 13,1952 | 287,8216       |
| 80.000-99.999    | 7.031.789  | 89.936              | 632.410.975.504   | 22,6366 | 46,7331 | 16,7125 | 29,9077 | 75,7031        |
| 100.000-149.999  | 10.474.933 | 120.414             | 1.261.328.582.262 | 33,7207 | 80,4538 | 33,3327 | 63,2404 | 3141,0191      |
| 150.000-199.999  | 3.481.011  | 170.631             | 593.968.387.941   | 11,2060 | 91,6598 | 15,6966 | 78,937  | 1593,2399      |
| 200.000-299.999  | 1.771.612  | 235.883             | 417.893.153.396   | 5,7031  | 97,3629 | 11,0435 | 89,9805 | 963,3534       |
| 300.000 or more  | 819.198    | 462.824             | 379.144.495.152   | 2,6371  | 100     | 10,0195 | 100     | 500,9976       |
|                  | 31.063.818 | 1.260.557           | 3.784.054.814.236 | 100     |         | 100     |         | 7476,2592      |

$$\text{Gini Coefficient} = 1 - \frac{(7476,2592)}{10.000}$$

$$= 1 - 0,7476$$

$$= 0,2524$$

## APPENDICS 2

Gini Coefficient in Central Java Province  
2002

| Expenditure      | Population | Average Expenditure | Total Expenditure | Pi      | Pik     | Yi      | Yik     | Pi*(Yik+Yik-1) |
|------------------|------------|---------------------|-------------------|---------|---------|---------|---------|----------------|
| Less than 30.000 | 1.116      | 14.476              | 16.155.216        | 0,0035  | 0,0035  | 0,0003  | 0,0003  | 0,0000         |
| 30.000-39.999    | 22.677     | 37.792              | 857.009.184       | 0,0716  | 0,0751  | 0,0173  | 0,0176  | 0,0013         |
| 40.000-59.999    | 454.659    | 54.254              | 24.667.069.386    | 1,4346  | 1,5097  | 0,4982  | 0,5158  | 0,7652         |
| 60.000-79.999    | 2.490.753  | 71.828              | 178.905.806.484   | 7,8593  | 9,369   | 3,6136  | 4,1294  | 36,5080        |
| 80.000-99.999    | 4.936.970  | 90.679              | 4.476.795.502.630 | 15,5780 | 24,947  | 9,0425  | 13,1719 | 269,5197       |
| 100.000-149.999  | 12.300.679 | 122.908             | 1.511.851.854.532 | 38,8134 | 63,7604 | 30,5372 | 43,7091 | 2207,7450      |
| 150.000-199.999  | 5.762.260  | 170.999             | 985.340.697.740   | 18,1821 | 81,9425 | 19,9025 | 63,6116 | 1951,3157      |
| 200.000-299.999  | 3.724.833  | 238.685             | 889.061.764.605   | 11,7533 | 93,6958 | 17,9578 | 81,5694 | 1706,3558      |
| 300.000 or more  | 1.997.919  | 456.712             | 912.473.582.328   | 6,3042  | 100     | 18,4306 | 100     | 1144,6178      |
|                  | 31.691.866 | 1.258.333           | 4.950.853.442.105 | 100     |         | 100     |         | 7316,8285      |

$$\text{Gini Coefficient} = 1 - \frac{(7316,8285)}{10.000}$$

$$= 1 - 0,73168$$

$$= 0,2683$$

### APPENDICS 3

Gini Coefficient in Central Java Province

2003

| Expenditure      | Population | Average Expenditure | Total Expenditure | Pi      | Pik     | Yi      | Yik     | Pi*(Yik+Yik-1) |
|------------------|------------|---------------------|-------------------|---------|---------|---------|---------|----------------|
| Less than 30.000 | 0          | 0                   | 0                 | 0       | 0       | 0       | 0       | 0              |
| 30.000-39.999    | 9.359      | 39.987              | 364.879.333       | 0,0292  | 0,0292  | 0,0066  | 0,0066  | 0,0002         |
| 40.000-59.999    | 229.446    | 53.115              | 12.187.024.290    | 0,7158  | 0,745   | 0,2207  | 0,2273  | 0,1674         |
| 60.000-79.999    | 1.387.087  | 72.208              | 100.158.778.096   | 4,3275  | 5,0725  | 1,8137  | 2,041   | 9,8165         |
| 80.000-99.999    | 3.290.844  | 91.117              | 299.851.832.748   | 10,2669 | 15,3394 | 5,4298  | 7,4708  | 97,6567        |
| 100.000-149.999  | 11.651.245 | 124.620             | 1.451.978.151.900 | 36,3501 | 51,6895 | 26,2929 | 33,7637 | 1498,8782      |
| 150.000-199.999  | 7.773.338  | 172.669             | 1.342.214.499.122 | 24,2517 | 75,9412 | 24,3052 | 58,0689 | 2227,0967      |
| 200.000-299.999  | 5.293.390  | 238.196             | 1.260.864.324.440 | 16,5146 | 92,4558 | 22,8321 | 80,901  | 2295,0323      |
| 300.000 or more  | 2.418.131  | 436.168             | 1.054.711.362.008 | 7,5442  | 100     | 19,0990 | 100     | 1364,7533      |
|                  | 32.052.840 | 1.228.080           | 5.522.330.851.937 | 100     |         | 100     |         | 7493,4013      |

$$\text{Gini Coefficient} = 1 - \frac{(7493,4013)}{10.000}$$

$$= 1 - 0,7493$$

$$= 0,2507$$

## APPENDICS 4

Kuznets Index in Central Java Province  
2001

| Expenditure      | Population | Average Expenditure | Total Expenditure | Pi      | Pik     | Yi      | Yik     | Pi-Yi   |
|------------------|------------|---------------------|-------------------|---------|---------|---------|---------|---------|
| Less than 30.000 | 1.070      | 18.897              | 20.238.687        | 0,0035  | 0,0035  | 0,0006  | 0,0006  | 0,0029  |
| 30.000-39.999    | 62.202     | 37.591              | 2.338.235.382     | 0,2002  | 0,2037  | 0,0618  | 0,0624  | 0,1384  |
| 40.000-59.999    | 1.720.302  | 53.306              | 91.702.418.412    | 5,5380  | 5,7417  | 2,4232  | 2,4858  | 3,1146  |
| 60.000-79.999    | 5.701.700  | 71.075              | 405.248.327.500   | 18,3548 | 24,0965 | 10,7094 | 13,1952 | 7,6454  |
| 80.000-99.999    | 7.031.789  | 89.936              | 632.410.975.504   | 22,6366 | 46,7331 | 16,7125 | 29,9077 | 5,9241  |
| 100.000-149.999  | 10.474.933 | 120.414             | 1.261.328.582.262 | 33,7207 | 80,4538 | 33,3327 | 63,2404 | 0,388   |
| 150.000-199.999  | 3.481.011  | 170.631             | 593.968.387.941   | 11,2060 | 91,6598 | 15,6966 | 78,937  | 4,4906  |
| 200.000-299.999  | 1.771.612  | 235.883             | 417.893.153.396   | 5,7031  | 97,3629 | 11,0435 | 89,9805 | 5,3404  |
| 300.000 or more  | 819.198    | 462.824             | 379.144.495.152   | 2,6371  | 100     | 10,0195 | 100     | 7,3824  |
|                  | 31.063.818 | 1.260.557           | 3.784.054.814.236 | 100     |         | 100     |         | 34,4268 |
|                  |            |                     |                   |         |         |         |         | 0,3443  |

$$\text{Kuznets Index} = \sum_{i=1}^k |P_i - Y_i|$$

$$= 0,3443$$

## APPENDICS 5

Kuznets Index in Central Java Province  
2002

| Expenditure      | Population | Average Expenditure | Total Expenditure | Pi      | Pik     | Yi      | Yik     | Pi - Yi |
|------------------|------------|---------------------|-------------------|---------|---------|---------|---------|---------|
| Less than 30.000 | 1.116      | 14.476              | 16.155.216        | 0,0035  | 0,0035  | 0,0003  | 0,0003  | 0,0032  |
| 30.000-39.999    | 22.677     | 37.792              | 857.009.184       | 0,0716  | 0,0751  | 0,0173  | 0,0176  | 0,0543  |
| 40.000-59.999    | 454.659    | 54.254              | 24.667.069.386    | 1,4346  | 1,5097  | 0,4982  | 0,5158  | 0,9364  |
| 60.000-79.999    | 2.490.753  | 71.828              | 178.905.806.484   | 7,8593  | 9,369   | 3,6136  | 4,1294  | 4,2457  |
| 80.000-99.999    | 4.936.970  | 90.679              | 4.476.795.502.630 | 15,5780 | 24,947  | 9,0425  | 13,1719 | 6,5355  |
| 100.000-149.999  | 12.300.679 | 122.908             | 1.511.851.854.532 | 38,8134 | 63,7604 | 30,5372 | 43,7091 | 8,276   |
| 150.000-199.999  | 5.762.260  | 170.999             | 985.340.697.740   | 18,1821 | 81,9425 | 19,9025 | 63,6116 | 1,7204  |
| 200.000-299.999  | 3.724.833  | 238.685             | 889.061.764.605   | 11,7533 | 93,6958 | 17,9578 | 81,5694 | 6,2045  |
| 300.000 or more  | 1.997.919  | 456.712             | 912.473.582.328   | 6,3042  | 100     | 18,4306 | 100     | 12,1264 |
|                  | 31.691.866 | 1.258.333           | 4.950.853.442.105 | 100     |         | 100     |         | 40,1024 |
|                  |            |                     |                   |         |         |         |         | 0,4010  |

$$\text{Kuznets Index} = \sum_{i=1}^k |P_i - Y_i|$$

$$= 0,4010$$

## APPENDICS 6

Kuznets Index in Central Java Province  
2003

| Expenditure      | Population | Average Expenditure | Total Expenditure | Pi      | Pik     | Yi      | Yik     | Pi - Yi |
|------------------|------------|---------------------|-------------------|---------|---------|---------|---------|---------|
| Less than 30.000 | 0          | 0                   | 0                 | 0       | 0       | 0       | 0       | 0       |
| 30.000-39.999    | 9.359      | 39.987              | 364.879.333       | 0,0292  | 0,0292  | 0,0066  | 0,0066  | 0,0226  |
| 40.000-59.999    | 229.446    | 53.115              | 12.187.024.290    | 0,7158  | 0,745   | 0,2207  | 0,2273  | 0,4951  |
| 60.000-79.999    | 1.387.087  | 72.208              | 100.158.778.096   | 4,3275  | 5,0725  | 1,8137  | 2,041   | 2,5138  |
| 80.000-99.999    | 3.290.844  | 91.117              | 299.851.832.748   | 10,2669 | 15,3394 | 5,4298  | 7,4708  | 4,8371  |
| 100.000-149.999  | 11.651.245 | 124.620             | 1.451.978.151.900 | 36,3501 | 51,6895 | 26,2929 | 33,7637 | 10,0572 |
| 150.000-199.999  | 7.773.338  | 172.669             | 1.342.214.499.122 | 24,2517 | 75,9412 | 24,3052 | 58,0689 | 0,0535  |
| 200.000-299.999  | 5.293.390  | 238.196             | 1.260.864.324.440 | 16,5146 | 92,4558 | 22,8321 | 80,901  | 6,3175  |
| 300.000 or more  | 2.418.131  | 436.168             | 1.054.711.362.008 | 7,5442  | 100     | 19,0990 | 100     | 11,5548 |
|                  | 32.052.840 | 1.228.080           | 5.522.330.851.937 | 100     |         | 100     |         | 35,8516 |
|                  |            |                     |                   |         |         |         |         | 0,3585  |

$$\text{Kuznets Index} = \sum_{i=1}^k |P_i - Y_i|$$

$$= 0,3585$$

## APPENDICS 7

Oshima Index in Central Java Province  
2001

| Expenditure      | Population | Average Expenditure | Total Expenditure | Pi      | Pik     | Yi      | Yik     | Pi-Yi   |
|------------------|------------|---------------------|-------------------|---------|---------|---------|---------|---------|
| Less than 30.000 | 1.070      | 18.897              | 20.238.687        | 0,0035  | 0,0035  | 0,0006  | 0,0006  | 0,0029  |
| 30.000-39.999    | 62.202     | 37.591              | 2.338.235.382     | 0,2002  | 0,2037  | 0,0618  | 0,0624  | 0,1384  |
| 40.000-59.999    | 1.720.302  | 53.306              | 91.702.418.412    | 5,5380  | 5,7417  | 2,4232  | 2,4858  | 3,1146  |
| 60.000-79.999    | 5.701.700  | 71.075              | 405.248.327.500   | 18,3548 | 24,0965 | 10,7094 | 13,1952 | 7,6454  |
| 80.000-99.999    | 7.031.789  | 89.936              | 632.410.975.504   | 22,6366 | 46,7331 | 16,7125 | 29,9077 | 5,9241  |
| 100.000-149.999  | 10.474.933 | 120.414             | 1.261.328.582.262 | 33,7207 | 80,4538 | 33,3327 | 63,2404 | 0,388   |
| 150.000-199.999  | 3.481.011  | 170.631             | 593.968.387.941   | 11,2060 | 91,6598 | 15,6966 | 78,937  | 4,4906  |
| 200.000-299.999  | 1.771.612  | 235.883             | 417.893.153.396   | 5,7031  | 97,3629 | 11,0435 | 89,9805 | 5,3404  |
| 300.000 or more  | 819.198    | 462.824             | 379.144.495.152   | 2,6371  | 100     | 10,0195 | 100     | 7,3824  |
|                  | 31.063.818 | 1.260.557           | 3.784.054.814.236 | 100     |         | 100     |         | 34,4268 |
|                  |            |                     |                   |         |         |         |         | 0,3443  |
|                  |            |                     |                   |         |         |         |         | 0,1913  |

$$\text{Oshima Index} = \frac{1}{1,8} * \sum_{i=1}^{10} |P_i - Y_i|$$

$$= 0,1913$$

## APPENDICS 8

Oshima Index in Central Java Province  
2002

| Expenditure      | Population | Average<br>Expenditure | Total Expenditure | Pi      | Pik     | Yi      | Yik     | Pi - Yi |
|------------------|------------|------------------------|-------------------|---------|---------|---------|---------|---------|
| Less than 30.000 | 1.116      | 14.476                 | 16.155.216        | 0,0035  | 0,0035  | 0,0003  | 0,0003  | 0,0032  |
| 30.000-39.999    | 22.677     | 37.792                 | 857.009.184       | 0,0716  | 0,0751  | 0,0173  | 0,0176  | 0,0543  |
| 40.000-59.999    | 454.659    | 54.254                 | 24.667.069.386    | 1,4346  | 1,5097  | 0,4982  | 0,5158  | 0,9364  |
| 60.000-79.999    | 2.490.753  | 71.828                 | 178.905.806.484   | 7,8593  | 9,369   | 3,6136  | 4,1294  | 4,2457  |
| 80.000-99.999    | 4.936.970  | 90.679                 | 4.476.795.502.630 | 15,5780 | 24,947  | 9,0425  | 13,1719 | 6,5355  |
| 100.000-149.999  | 12.300.679 | 122.908                | 1.511.851.854.532 | 38,8134 | 63,7604 | 30,5372 | 43,7091 | 8,276   |
| 150.000-199.999  | 5.762.260  | 170.999                | 985.340.697.740   | 18,1821 | 81,9425 | 19,9025 | 63,6116 | 1,7204  |
| 200.000-299.999  | 3.724.833  | 238.685                | 889.061.764.605   | 11,7533 | 93,6958 | 17,9578 | 81,5694 | 6,2045  |
| 300.000 or more  | 1.997.919  | 456.712                | 912.473.582.328   | 6,3042  | 100     | 18,4306 | 100     | 12,1264 |
|                  | 31.691.866 | 1.258.333              | 4.950.853.442.105 | 100     |         | 100     |         | 40,1024 |
|                  |            |                        |                   |         |         |         |         | 0,4010  |
|                  |            |                        |                   |         |         |         |         | 0,2228  |

$$\text{Oshima Index} = \frac{1}{1,8} * \sum_{i=1}^{10} |P_i - Y_i|$$

$$= 0,2228$$

## APPENDICS 9

Oshima Index in Central Java Province  
2003

| Expenditure      | Population | Average Expenditure | Total Expenditure | Pi      | Pik     | Yi      | Yik     | Pi - Yi |
|------------------|------------|---------------------|-------------------|---------|---------|---------|---------|---------|
| Less than 30.000 | 0          | 0                   | 0                 | 0       | 0       | 0       | 0       | 0       |
| 30.000-39.999    | 9.359      | 39.987              | 364.879.333       | 0,0292  | 0,0292  | 0,0066  | 0,0066  | 0,0226  |
| 40.000-59.999    | 229.446    | 53.115              | 12.187.024.290    | 0,7158  | 0,745   | 0,2207  | 0,2273  | 0,4951  |
| 60.000-79.999    | 1.387.087  | 72.208              | 100.158.778.096   | 4,3275  | 5,0725  | 1,8137  | 2,041   | 2,5138  |
| 80.000-99.999    | 3.290.844  | 91.117              | 299.851.832.748   | 10,2669 | 15,3394 | 5,4298  | 7,4708  | 4,8371  |
| 100.000-149.999  | 11.651.245 | 124.620             | 1.451.978.151.900 | 36,3501 | 51,6895 | 26,2929 | 33,7637 | 10,0572 |
| 150.000-199.999  | 7.773.338  | 172.669             | 1.342.214.499.122 | 24,2517 | 75,9412 | 24,3052 | 58,0689 | 0,0535  |
| 200.000-299.999  | 5.293.390  | 238.196             | 1.260.864.324.440 | 16,5146 | 92,4558 | 22,8321 | 80,901  | 6,3175  |
| 300.000 or more  | 2.418.131  | 436.168             | 1.054.711.362.008 | 7,5442  | 100     | 19,0990 | 100     | 11,5548 |
|                  | 32.052.840 | 1.228.080           | 5.522.330.851.937 | 100     |         | 100     |         | 35,8516 |
|                  |            |                     |                   |         |         |         |         | 0,3585  |
|                  |            |                     |                   |         |         |         |         | 0,1992  |

$$\text{Oshima Index} = \frac{1}{1,8} * \sum_{i=1}^{10} |P_i - Y_i|$$

$$= 0,1992$$

## APPENDICS 10

Coefficient Variation of Income Distribution in Central Java Province

2001

| Expenditure      | Population | Average Expenditure | Total Expenditure | Median    | (Mi-X) <sup>2</sup> | F*[(Mi-X) <sup>2</sup> ]    |
|------------------|------------|---------------------|-------------------|-----------|---------------------|-----------------------------|
| Less than 30.000 | 1.070      | 18.897              | 20.238.687        | 15.000    | 15.640.476.055,2359 | 16.750.949.855.157,6489     |
| 30.000-39.999    | 62.202     | 37.591              | 2.338.235.382     | 34.999,5  | 11.038.105.561,3748 | 686.592.242.128.635,3096    |
| 40.000-59.999    | 1.720.302  | 53.306              | 91.702.418.412    | 49.999,5  | 8.111.233.894,3748  | 13.953.771.890.960.757,1896 |
| 60.000-79.999    | 5.701.700  | 71.075              | 405.248.327.500   | 69.999,5  | 4.908.738.338,3748  | 27.988.153.383.911.597,16   |
| 80.000-99.999    | 7.031.789  | 89.936              | 632.410.975.504   | 89.999,5  | 2.506.242.782,3748  | 17.623.370.428.432.512,5172 |
| 100.000-149.999  | 10.474.933 | 120.414             | 1.261.328.582.262 | 124.999,5 | 226.875.559,3748    | 2.376.506.283.788.551,8884  |
| 150.000-199.999  | 3.481.011  | 170.631             | 593.968.387.941   | 174.999,5 | 1.220.636.669,3748  | 4.249.049.673.097.041,9228  |
| 200.000-299.999  | 1.771.612  | 235.883             | 417.893.153.396   | 249.999,5 | 12.086.278.334,3748 | 21.412.195.732.518.408,1776 |
| 300.000 or more  | 819.198    | 462.824             | 379.144.495.152   | 150.000   | 98.766.052,2359     | 80.908.952.459.544,8082     |
|                  | 31.063.818 | 1.260.557           | 3.784.054.814.236 |           |                     | 88.387.299.537.152.206,6223 |
|                  |            | 140.061,8889        |                   |           |                     | 2.845.345.653,8135          |
|                  |            |                     |                   |           |                     | 53.341,7815                 |
|                  |            |                     |                   |           |                     | 0,3808                      |

Coefficient of Variation = 0,3808

## APPENDICS 11

Coefficient Variation of Income Distribution in Central Java Province

2002

| Expenditure      | Population | Average Expenditure | Total Expenditure | Median    | (Mi-X) <sup>2</sup>  | F*[(Mi-X) <sup>2</sup> ]     |
|------------------|------------|---------------------|-------------------|-----------|----------------------|------------------------------|
| Less than 30.000 | 1.116      | 14.476              | 16.155.216        | 15.000    | 155.787.287.757.2634 | 17.385.861.293.105.9544      |
| 30.000-39.999    | 22.677     | 37.792              | 857.009.184       | 34.999,5  | 10.986.242.460.2912  | 249.135.020.272.023.5424     |
| 40.000-59.999    | 454.659    | 54.254              | 24.667.069.386    | 49.999,5  | 8.066.784.126.2912   | 3.667.636.004.075.430.7008   |
| 60.000-79.999    | 2.490.753  | 71.828              | 178.905.806.484   | 69.999,5  | 4.874.173.014.2912   | 12.140.361.057.864.849.2736  |
| 80.000-99.999    | 4.936.970  | 90.679              | 4.476.795.502.630 | 89.999,5  | 2.481.561.902.2912   | 12.251.396.664.754.858.664   |
| 100.000-149.999  | 12.300.679 | 122.908             | 1.511.851.854.532 | 124.999,5 | 219.492.456.2912     | 2.699.906.247.759.581.7248   |
| 150.000-199.999  | 5.762.260  | 170.999             | 985.340.697.740   | 174.999,5 | 1.237.964.676.2912   | 7.133.474.335.605.730.112    |
| 200.000-299.999  | 3.724.833  | 238.685             | 889.061.764.605   | 249.999,5 | 12.140.673.006.2912  | 45.221.979.456.042.669.3696  |
| 300.000 or more  | 1.997.919  | 456.712             | 912.473.582.328   | 150.000   | 103.738.751.2634     | 207.261.622.185.420.8646     |
|                  | 31.691.866 | 1.258.333           | 4.950.853.442.105 |           |                      | 83.588.536.269.853.397.20,62 |
|                  |            | 139.814,7778        |                   |           |                      | 2.637.539.117,1304           |
|                  |            |                     |                   |           |                      | 51.356,9773                  |
|                  |            |                     |                   |           |                      | 0,3675                       |

Coefficient of Variation = 0,3675

# **APPENDICS 13** Relative Inequality in Central Java Province

2001

| Expenditure      | Population | Average Expenditure | Total Expenditure | Pi      | Pik     | Yi      | Yik     |
|------------------|------------|---------------------|-------------------|---------|---------|---------|---------|
| Less than 30.000 | 1.070      | 18.897              | 20.238.687        | 0,0035  | 0,0035  | 0,0006  | 0,0006  |
| 30.000-39.999    | 62.202     | 37.591              | 2.338.235.382     | 0,2002  | 0,2037  | 0,0618  | 0,0624  |
| 40.000-59.999    | 1.720.302  | 53.306              | 91.702.418.412    | 5,5380  | 5,7417  | 2,4232  | 2,4858  |
| 60.000-79.999    | 5.701.700  | 71.075              | 405.248.327.500   | 18,3548 | 24,0965 | 10,7094 | 13,1952 |
| 80.000-99.999    | 7.031.789  | 89.936              | 632.410.975.504   | 22,6366 | 46,7331 | 16,7125 | 29,9077 |
| 100.000-149.999  | 10.474.933 | 120.414             | 1.261.328.582.262 | 33,7207 | 80,4538 | 33,3327 | 63,2404 |
| 150.000-199.999  | 3.481.011  | 170.631             | 593.968.387.941   | 11,2060 | 91,6598 | 15,6966 | 78,937  |
| 200.000-299.999  | 1.771.612  | 235.883             | 417.893.153.396   | 5,7031  | 97,3629 | 11,0435 | 89,9805 |
| 300.000 or more  | 819.198    | 462.824             | 379.144.495.152   | 2,6371  | 100     | 10,0195 | 100     |
|                  | 31.063.818 | 1.260.557           | 3.784.054.814.236 | 100     |         | 100     |         |

| Class           | Total Population | Cumulative Population | Total Percentage |
|-----------------|------------------|-----------------------|------------------|
| Class I (40%)   | 12.425.767       | 12.425.767            | 40%              |
| Class II (40%)  | 12.425.767       | 24.851.534            | 80%              |
| Class III (20%) | 6.212.884        | 31.064.418            | 100%             |
| Total Group     | 31.064.418       |                       |                  |

| Class           | Total Percentage | Percentage of World Bank |
|-----------------|------------------|--------------------------|
| Class I (40%)   | 24,94%           | 24,94%                   |
| Class II (40%)  | 62,79%           | 37,85%                   |
| Class III (20%) | 100%             | 37,21%                   |
| Total Group     |                  | 100%                     |

## APPENDICS 14

### Relative Inequality in Central Java Province 2002

| Expenditure      | Population | Average Expenditure | Total Expenditure | Pi      | Pik     | Yi      | Yik     |
|------------------|------------|---------------------|-------------------|---------|---------|---------|---------|
| Less than 30.000 | 1.116      | 14.476              | 16.155.216        | 0,0035  | 0,0035  | 0,0003  | 0,0003  |
| 30.000-39.999    | 22.677     | 37.792              | 857.009.184       | 0,0716  | 0,0751  | 0,0173  | 0,0176  |
| 40.000-59.999    | 454.659    | 54.254              | 24.667.069.386    | 1,4346  | 1,5097  | 0,4982  | 0,5158  |
| 60.000-79.999    | 2.490.753  | 71.828              | 178.905.806.484   | 7,8593  | 9,369   | 3,6136  | 4,1294  |
| 80.000-99.999    | 4.936.970  | 90.679              | 4.476.795.502.630 | 15,5780 | 24,947  | 9,0425  | 13,1719 |
| 100.000-149.999  | 12.300.679 | 122.908             | 1.511.851.854.532 | 38,8134 | 63,7604 | 30,5372 | 43,7091 |
| 150.000-199.999  | 5.762.260  | 170.999             | 985.340.697.740   | 18,1821 | 81,9425 | 19,9025 | 63,6116 |
| 200.000-299.999  | 3.724.833  | 238.685             | 889.061.764.605   | 11,7533 | 93,6958 | 17,9578 | 81,5694 |
| 300.000 or more  | 1.997.919  | 456.712             | 912.473.582.328   | 6,3042  | 100     | 18,4306 | 100     |
|                  | 31.691.866 | 1.258.333           | 4.950.853.442.105 | 100     |         | 100     |         |

| Class           | Total Population | Cumulative Population | Total Percentage |
|-----------------|------------------|-----------------------|------------------|
| Class I (40%)   | 12.676.746       | 12.676.476            | 40%              |
| Class II (40%)  | 12.676.746       | 25.335.492            | 80%              |
| Class III (20%) | 6.338.374        | 31.691.866            | 100%             |
| Total Group     | 31.691.866       |                       |                  |

| Class           | Total Percentage | Percentage of World Bank |
|-----------------|------------------|--------------------------|
| Class I (40%)   | 25,02%           | 25,02%                   |
| Class II (40%)  | 61,48%           | 36,46%                   |
| Class III (20%) | 100%             | 38,52%                   |
| Total Group     |                  | 100%                     |

## APPENDICS 15

Relative Inequality in Central Java Province  
2003

| Expenditure      | Population | Average Expenditure | Total Expenditure | Pi      | Pik     | Yi      | Yik     |
|------------------|------------|---------------------|-------------------|---------|---------|---------|---------|
| Less than 30.000 | 0          | 0                   | 0                 | 0       | 0       | 0       | 0       |
| 30.000-39.999    | 9.359      | 39.987              | 364.879.333       | 0,0292  | 0,0292  | 0,0066  | 0,0066  |
| 40.000-59.999    | 229.446    | 53.115              | 12.187.024.290    | 0,7158  | 0,745   | 0,2207  | 0,2273  |
| 60.000-79.999    | 1.387.087  | 72.208              | 100.158.778.096   | 4,3275  | 5,0725  | 1,8137  | 2,041   |
| 80.000-99.999    | 3.290.844  | 91.117              | 299.851.832.748   | 10,2669 | 15,3394 | 5,4298  | 7,4708  |
| 100.000-149.999  | 11.651.245 | 124.620             | 1.451.978.151.900 | 36,3501 | 51,6895 | 26,2929 | 33,7637 |
| 150.000-199.999  | 7.773.338  | 172.669             | 1.342.214.499.122 | 24,2517 | 75,9412 | 24,3052 | 58,0689 |
| 200.000-299.999  | 5.293.390  | 238.196             | 1.260.864.324.440 | 16,5146 | 92,4558 | 22,8321 | 80,901  |
| 300.000 or more  | 2.418.131  | 436.168             | 1.054.711.362.008 | 7,5442  | 100     | 19,0990 | 100     |
|                  | 32.052.840 | 1.228.080           | 5.522.330.851.937 | 100     |         | 100     |         |

| Class           | Total Population | Cumulative Population | Total Percentage |
|-----------------|------------------|-----------------------|------------------|
| Class I (40%)   | 12.821.136       | 12.821.136            | 40%              |
| Class II (40%)  | 12.821.136       | 25.642.272            | 80%              |
| Class III (20%) | 6.410.568        | 32.052.840            | 100%             |
| Total Group     | 32.052.840       |                       |                  |

| Class           | Total Percentage | Percentage of World Bank |
|-----------------|------------------|--------------------------|
| Class I (40%)   | 25,31%           | 25,31%                   |
| Class II (40%)  | 63,68%           | 38,37%                   |
| Class III (20%) | 100%             | 36,32%                   |
| Total Group     |                  | 100%                     |



## APPENDICS 11

Coefficient Variation of Income Distribution in Central Java Province

2002

| Expenditure      | Population | Average Expenditure | Total Expenditure | Median    | (Mi-X) <sup>2</sup>  | F*[(Mi-X) <sup>2</sup> ]     |
|------------------|------------|---------------------|-------------------|-----------|----------------------|------------------------------|
| Less than 30.000 | 1.116      | 14.476              | 16.155.216        | 15.000    | 155.787.287.757.2634 | 17.385.861.293.105.9544      |
| 30.000-39.999    | 22.677     | 37.792              | 857.009.184       | 34.999,5  | 10.986.242.460.2912  | 249.135.020.272.023.5424     |
| 40.000-59.999    | 454.659    | 54.254              | 24.667.069.386    | 49.999,5  | 8.066.784.126.2912   | 3.667.636.004.075.430.7008   |
| 60.000-79.999    | 2.490.753  | 71.828              | 178.905.806.484   | 69.999,5  | 4.874.173.014.2912   | 12.140.361.057.864.849.2736  |
| 80.000-99.999    | 4.936.970  | 90.679              | 4.476.795.502.630 | 89.999,5  | 2.481.561.902.2912   | 12.251.396.664.754.858.664   |
| 100.000-149.999  | 12.300.679 | 122.908             | 1.511.851.854.532 | 124.999,5 | 219.492.456.2912     | 2.699.906.247.759.581.7248   |
| 150.000-199.999  | 5.762.260  | 170.999             | 985.340.697.740   | 174.999,5 | 1.237.964.676.2912   | 7.133.474.335.605.730.112    |
| 200.000-299.999  | 3.724.833  | 238.685             | 889.061.764.605   | 249.999,5 | 12.140.673.006.2912  | 45.221.979.456.042.669.3696  |
| 300.000 or more  | 1.997.919  | 456.712             | 912.473.582.328   | 150.000   | 103.738.751.2634     | 207.261.622.185.420.8646     |
|                  | 31.691.866 | 1.258.333           | 4.950.853.442.105 |           |                      | 83.588.536.269.853.397.20,62 |
|                  |            | 139.814,7778        |                   |           |                      | 2.637.539.117,1304           |
|                  |            |                     |                   |           |                      | 51.356,9773                  |
|                  |            |                     |                   |           |                      | 0,3675                       |

Coefficient of Variation = 0,3675

## APPENDICS 12

Coefficient Variation of Income Distribution in Central Java Province

2003

| Expenditure      | Population | Average Expenditure | Total Expenditure | Median    | (Mi-X) <sup>2</sup> | F*[(Mi-X) <sup>2</sup> ]    |
|------------------|------------|---------------------|-------------------|-----------|---------------------|-----------------------------|
| Less than 30.000 | 0          | 0                   | 0                 | 15.000    | 14.750.912.169,6809 | 0                           |
| 30.000-39.999    | 9.359      | 39.987              | 364.879.333       | 34.999,5  | 10.292.880.291,2642 | 96.331.066.645.941,6478     |
| 40.000-59.999    | 229.446    | 53.115              | 12.187.024.290    | 49.999,5  | 7.474.265.292,2642  | 1.714.940.274.248.851,6332  |
| 60.000-79.999    | 1.387.087  | 72.208              | 100.158.778.096   | 69.999,5  | 4.416.111.960,2642  | 6.125.531.490.626.999,3854  |
| 80.000-99.999    | 3.290.844  | 91.117              | 299.851.832.748   | 89.999,5  | 2.157.958.628,2642  | 7.101.505.204.071.472,9848  |
| 100.000-149.999  | 11.651.245 | 124.620             | 1.451.978.151.900 | 124.999,5 | 131.190.297,2642    | 1.528.530.295.048.023,929   |
| 150.000-199.999  | 7.773.338  | 172.669             | 1.342.214.499.122 | 174.999,5 | 1.485.806.967,2642  | 11.549.679.759.299.561,8996 |
| 200.000-299.999  | 5.293.390  | 238.196             | 1.260.864.324.440 | 249.999,5 | 12.892.731.972,2642 | 68.246.258.494.663.593,638  |
| 300.000 or more  | 2.418.131  | 436.168             | 1.054.711.362.008 | 150.000   | 183.512.178,6809    | 443.756.488.145.823,3979    |
|                  | 32.052.840 | 1.228.080           | 5.522.330.851.937 |           |                     | 96.806.533.072.750.257,5157 |
|                  |            | 136.453,3333        |                   |           |                     | 3.020.217.025,1606          |
|                  |            |                     |                   |           |                     | 54.956,5012                 |
|                  |            |                     |                   |           |                     | 0,4027                      |

Coefficient of Variation = 0,4027