EDUCATION AND ECONOMIC GROWTH IN INDONESIA

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Summary

This study aims to analyze and uncover the relationship between education (defined here as human capital) and economic growth in Indonesia. It is hoped that this study could provide explanations on the nature and magnitude in which education relates and contributes to economic growth and performance.

The links between education and economic growth could happen in many ways. The links are also likely to involve a two-way rather than one-way relationship. This study attempts to do a broad based research on education and economic growth in Indonesia. The stream of analysis is done at three levels.

1. The Macro-Aggregate Level (Human-Education-Skills)
2. The Household Level (Human-Education-Allocation)
3. The Ideology-Policy Level (Human-Education-Ideology) and The Institutional Level (Human-Education-Institution/Culture).

Based on the three levels of analysis, it is clear that economic growth should not and cannot be simply viewed only in terms of physical or material phenomenon. Structural change occurs both at the physical and at the deeper ideological level. Economic growth has brought changes in both the society and the individuals.

While it may provide support for 'physical' growth in the framework of human capital both in the household and national levels, education or schooling could have done better should it also be directed towards building an 'Indonesian Man' that is self-sufficient, independent and entrepreneurial. Only then, economic growth could be said to be 'self-driven', and not to follow the current pattern of dependence, either on FDI, international trade, or on oil.

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LIST OF ACRONYMS

BAPPENAS: *Badan Perencanaan dan Pembangunan Nasional* (The Agency for National Development and Planning).
BI: *Bank Indonesia* (Indonesia's Central Bank).
BPS: *Badan Pusat Statistik* (Central Agency of Statistics).
ICOR: Incremental Capital-Output Ratio.
IEA: International Energy Agency.
IFI: International Financial Institution.
LPEM-FEUI: *Lembaga Penyelidikan Ekonomi dan Masyarakat-Fakultas Ekonomi Universitas Indonesia* (Institute for Economics and Social Research, Faculty of Economics University of Indonesia).
MoE: Ministry of Education.
MOEC: Ministry of Education and Culture.
MoRA: Ministry of Religiuous Affairs (*Departemen Agama*).
NEP: National Education Philosophy
PAD: *Pendapatan Asli Daerah* (Local Owned Revenues)
PELITA: *Pembangunan Lima Tahun* (Five Year Development Planning)
PJP: *Pembangunan Jangka Panjang* (Long Term Development Plan)
Repelita: *Rencana Pembangunan Lima Tahun* (Five Year Development Planning Document)
Sakernas: *Survey Ketenagakerjaan Nasional* (National Labour Force Survey-NFLS).
SD: *Sekolah Dasar* (Elementary School)
SMA: *Sekolah Menengah Atas* (High School)
SMP: *Sekolah Menengah Pertama* (Junior Secondary School)
SME: Small and Medium Enterprise
Susenas: *Survey Sosial Ekonomi Nasional* (National Socio- Economic Survey).
TMP: Tight Money Policy.
UNDP: United Nations Development Program.
UNESCO: United Nations Educational, Scientific and Cultural Organisation.

Chapter 1
Introduction

This chapter describes the objectives and methods applied in conducting this research. Reasons for applying a combination of quantitative and qualitative, as well as inter-discplinary research, are specified. The contributions of this research are highlighted in the end of this chapter.

1.1 Overview

Issues regarding education are especially relevant and important to Indonesia. With a total population estimated at around 213 million as of 2001, an uneducated populace would become a burden rather than an ingredient for development. The size of the economically active population aged 15 and over in 2001 was estimated to be 144 million with the largest share of the workforce still dominated by workers with only a primary-school education (around 50 million workers in 2001) (Muhamad 2002). Muhamad (2002) noted that the share of workers with high school and university degrees has been increasing in urban areas, but less-well educated workers are still a majority even in cities.

At one level, Indonesia has been quite successful in extending formal education, at least at the primary level (World Bank 1996). Over the last three decades, a universal

access to primary education has already been achieved. Primary education (grades 1 through 6) has been made available to nearly all children. The costs of schooling for children are considered low and primary schools are located in nearly every village throughout Indonesia.

Some have questioned, however, that perhaps Indonesia has not invested enough in education. Some data suggest that Indonesia spends only around 1.4% of GNP on education, compared with a global average of 4.5%[1].

Indonesia is also the largest energy producer in ASEAN. Indonesia is endowed with rich natural resources[2] (like oil and gas, copper, rubber, etc.) compared with other ASEAN countries. Table 1.1 describes the energy production in ASEAN that could be used as a proxy for natural resource endowments. In ASEAN, Indonesia is the largest energy producer, followed by Malaysia and Brunei.

Table 1-1 Energy Production by Source: Total from All Sources

Units: Thousand metric tons oil equivalent (ktoe)

	1971	1975	1980	1985	1990	1995	2000
Brunei Darussalam	6,650.6	14,378.0	20,742.1	15,736.5	15,299.9	17,837.6	19,158.6
Indonesia	72,936.0	96,972.1	128,996.0	132,786.9	161,518.0	206,837.4	229,478.4
Malaysia	4,770.2	6,673.6	18,202.3	34,197.9	48,726.8	64,701.9	76,759.5
Myanmar	7,340.5	8,133.8	9,512.6	11,095.6	10,650.6	10,996.7	15,144.1
Philippines	6,308.7	7,101.7	10,670.0	14,947.1	15,902.8	16,807.7	20,922.1
Singapore	..	..	..	..	..	..	63.6
Thailand	7,892.8	10,113.8	11,182.4	17,252.0	25,907.7	31,404.3	41,117.5
Viet Nam	14,204.5	16,660.7	18,363.7	20,090.5	24,987.7	34,509.6	46,299.4
World	5,671,575.3	6,326,416.2	7,347,591.6	7,752,391.2	8,806,950.1	9,307,807.6	10,077,983.5

Source: IEA Energy Balances, International Energy Agency (IEA).

Indeed the economies of Southeast Asia consist of a very diverse group. The fast growing economies of Southeast Asia, especially those of Indonesia, Thailand and Malaysia are being labeled a 'miracle' by the World Bank (1993). The lessons from

[1] BPS-Statistics Indonesia, BAPPENAS, UNDP (2001).
[2] The extraction of oil and gas from the Indonesian archipelago has, over the past thirty years, realised a

these fast growing economies, according to the World Bank, are macroeconomic stability, market-friendly policy and institutions, a philosophy of shared growth, and high human capital accumulation (Hwa 2001).

Booth (1998) considered that the growth model of Southeast Asian economies are in a number of important respects different from the fast growing economies of Northeast Asia, Japan, Taiwan and South Korea. Different colonial legacies[3] that have had important consequences for educational progress and the distribution of income and wealth have made the difference.

The main explanations for the Northeast Asian growth model, according to Booth, are the importance of investment in both human and physical capital, the egalitarian distribution of income and assets, the importance of rapid export growth and the "insulated" nature of government decision-making. The differences in natural resource endowment (the resource poor Northeast Asia compared with the resource-rich Southeast Asia) has caused the latter to be actually benefited (or cursed?) by being able to exploit their abundant reserves of land and natural resources in initiating economic growth. This in turn will affect the role of government and the nature of their relationship with the business sector in both the colonial and the post-colonial era. (Amsden 1995: 794) in Booth (1999: 310) argues that Malaysia, Indonesia and Thailands' rich natural resources allowed a…

> …more modest initial role for the government than in Korea and Taiwan. The leading sectors of these South East Asian countries were agro-based and competitive in world markets without substantial productivity-augmenting support from government, and without significant reliance on imported inputs.

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value of about 300 billion dollars. (Sangkoyo 2003).

[3] Chandra (2000) traces the origins of the local nationalist and anti-Chinese Sarekat Islam movements (1912-16) in the context of colonial policy and movements in industrial wages for subjects of the Indies for the period 1908-17 in which the conclusion is that "nationalist movements are not born from notions of absolutely splendid ancestors; their origins lie in humbler, and often economic, phenomena".

The objectives of this dissertation are to analyse and uncover the relationship between education (could be narrowly defined as human capital) and economic growth in Indonesia. It is hoped that the thesis could provide explanations on how and on what magnitude has education been related to and contributed to economic growth and performance. The links and channels between education and economic growth could happen in many ways. The links also likely involve a two-way rather than a one-way relationship.

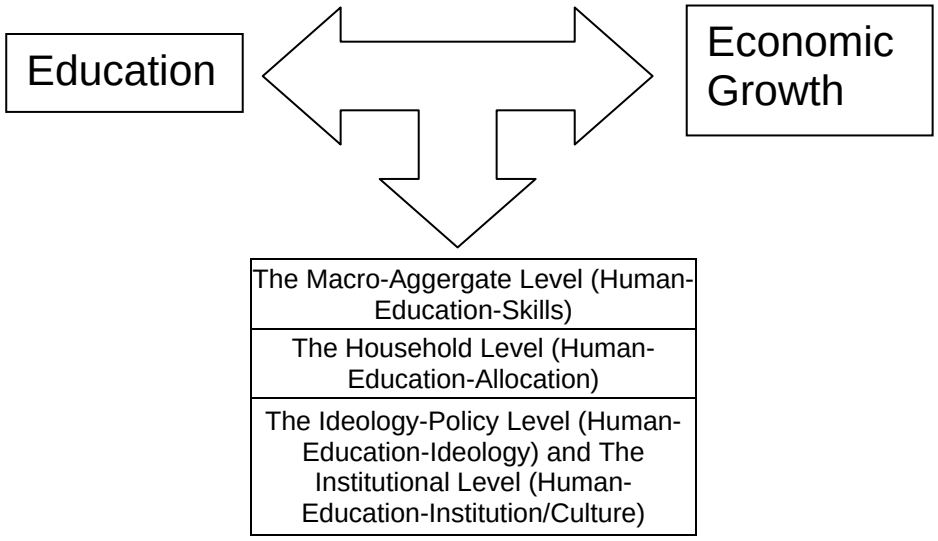
As both education and economic growth are the desired goals of development, the determination of the relationship between them could provide a valuable tool for policy-making, in which it could be made more efficient, especially in a budget-constrained government like Indonesia's. It may also help to prevent conflicting policies such that the gain from related policy reform could be maximized.

Additionally, learning from other East Asian countries could provide deeper and broader insights into the analysis. With similar economic structure and societies, the experience of other East Asian countries could provide additional insights in explaining the relationship between education and economic growth. The differences among these countries would also help in learning how the relationship will change under different situations -either economic or political- and how to address those changes.

1.2 Objectives of the Research

The primary objectives of this research are to analyze the relationship between education and economic growth in Indonesia at both the micro-level and at the macro-level. The suggested framework is discussed below.

Figure 1-1 Macro and Micro Relationships between Education and Economic Growth



1.3 Method of Research

In researching any issue in the social sciences, it is important to find a proper and suitable way for doing so given the vast amount of research methods available. It is hoped that the research could be carried out using an interdisciplinary approach considering that various factors simultaneously affecting economic growth and

education (combining economics, politics, history[4] and maybe other social sciences where appropriate). Traditional economic growth theory basically tries to find and identify equilibrium growth paths[5]. Its approach is explicitly ahistoric, and the expected result is that in the long run, the growth rate of per capita income will only depend on exogenous technical change. So if technical change falls like 'manna from heaven', and no other variables have any long-lasting influence on the per capita growth rate, nothing else can be done in order to improve the growth performance of a country (Graff 2001). On the other hand, conventional "development economics" theories follow a more historical approach, started by the work of W.W. Rostow, *The Stages of Economic Growth*, in which he concluded that the developmental path is common to all countries following a sequence of stages to achieve development.[6]

It has to be remembered that the most appropriate method for research is not easily and directly visible and even as the final choice is made, the never-ending debate over methodology can always arise. These debates have happened even in established sciences such as economics and political science and are as old as these sciences themselves without showing signs of convergence. Indeed, those debates have made science progress. I would argue that in determining which method is more appropriate is to carefully define the problems at hand and to use proper reasoning by applying the basic method available.

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[4] For example, Emil Salim, a prominent academic and technocrat of economic development in Indonesia during Soeharto era has noted that the history of hundreds of years of colonization in Indonesia has put a strong influence on the economic structure that is biased towards producing raw materials from natural resources through agriculture and mining. Salim feels that the imbalance in economic structure should be amended to be more balanced by developing industrial and services sector (Salim 1995: 60).

[5] The most recent 'hybrid' of growth theories is the Evolutionary Theories of Growth. This literature stresses the empirical study of technological change and innovation in firms, of the processes by which firms innovate and of the characteristics of, and relationships between, innovating firms (Sheehan 2000).

[6] A summary of various development economic theories are provided by Hidalgo Capitán (1994).

1.3.1 Quantitative and Qualitative Research Method

Both the quantitative method (such as regression analysis) and the qualitative method are applied with different goals in mind.[7] The quantitative method is a means for providing 'empirical observations' in a narrow sense, leading to a positivist nature of conclusion. The argument for positivist, is that empirical tests must in every case be the final arbiter between theoretical disputes (Alexander and Reed 2003), so it is very much useful for prediction purposes.[8]

The qualitative method then would serve as a complement, as Alexander and Reed (2003) argue that it is to become a humanistic alternative to scientific study that had in common their anti-scientific stances, a position which was held to imply the following: a focus on people rather than external forces; an emphasis on emotions and morality rather than instrumental calculation; interpretative rather than quantitative methods; the ideological commitment to a moral society, i.e., one which fights the dangers of technology and positivist science. As such the existence of 'multiple social realities' (i.e. the co-existence of different understandings and interpretations of experience) is acknowledged, and it questions the ontological realism of a 'narrow' positivist science (i.e. of a 'real world' that is simply 'out there' to be discovered) (DeLong 2003).

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[7] There are conflicting conceptions of the role of general theories in the social sciences; we could take economics as an example. Whereas the "theoreticians" insisted that economics could derive assumptions concerning functional relationships between quantifiable flows of goods and money in the form of axiomatic-deductive system of statements, and thus could be established as mathematical economic theory, the 'historians" understood the economic process as a real social life-process that would have to be grasped descriptively in terms of the institutions of economic activity. (Habermas 1994)

[8] Karl Popper in the 1930s rejected the idea of empricial proofing. With the problems of selection, certainty, error and interpretation in empirical method, he argued that the scientific method of induction envisaged by crude empiricism was a myth. For a complete discussion regarding empiricism refer to Doyal (1986: 10).

As economic growth is a social phenomenon, we could apply a different framework when we think about and analyze economic growth. The framework proposed in this research is not exhaustive; it just represents an effort to view economic growth from a human-development perspective. The research will also try to view the problems at hand from an area-studies point of view, meaning not to be overly trapped by the strict methodological rigor from the respective discipline.

It is acknowledged that the process and result of this research will be affected by the background and subjectivity or interpretation of the author, without any intention to mislead the reader and to reduce the scientific content of the research. The author views that social science – which involves human beings and thus highly unpredictable and uncertain – is a social construct; and the positivism nature of scientific method in social science is limited.[9] However, clear conclusions and recommendations are hoped to be achieved in the end of the research to avoid mere speculation and misunderstanding and to provide a clearer path for further research.

The mixture of both quantitative and qualitative method is possible. Both quantitative and qualitative method have both advantages and disadvantages. The two methods should be viewed as complementary rather than as substitutes. While the quantitative approach might be more useful in deriving a 'positivist' conclusion, qualitative approach could complement to enrich and enhance the precision of quantitative method. As Cupchik (2001) argued:

> If the two approaches offer complementary views of the social world, this implies that richness can enhance precision because the in-depth account

[9] According to Ragin (2000), social scientists often face a fundamental dilemma when they conduct their social research. They could emphasize the complexity of social phenomena or they can make broad, homogenizing assumptions about cases and document generalities – patterns that hold across many instances.

> encompasses more information, while a focus on precision can lead to a clarification of basic concepts. The thick descriptive data produced by qualitative research can shape the choice of variables in quantitative research.[10]

For the quantitative method, the statistical method of regression would be used to quantify statistical relationship between education and human capital by using the human capital model. For the qualitative method, the method of historical, comparison, cultural and biographical analysis would also be adopted in order to provide a stronger argument.

1.3.2 Comparative Research Methods

The comparative approach has always existed and played a major role in the social sciences. It is different with the natural sciences, which think of themselves as universal in their approach and adopt a more positivist approach to science. The comparative approach could be used as an essential means for generating and improving knowledge. But in doing so, it requires a willingness to go beyond the frontiers that the social sciences have imposed upon themselves. Comparing similar problems in relatively similar contexts would enable researchers to dispose of the aspects that obscure the conceptualization process and enable them to get to the essential core of the problems – focusing more on the problems rather than on the method (Zahariadis 2000). The comparative approach would also serve as a device for classifications of social phenomena and for establishing whether shared phenomena can be explained by the same causes and to what extent are they different. The comparative approach in the social sciences is usually adopted in an implicit rather than explicit

[10] Cupchik, Gerald (2001).

manner since the aim is above all to identify the specificity of a particular phenomenon or region (Ghorra-Gobin 1999).

The comparative approach has a long tradition dating back to ancient Greece. As Hantrais (1996) claimed "Since the nineteenth century, philosophers, anthropologists, political scientists and sociologists have used cross-cultural comparisons to achieve various objectives".

Mill's work is considered to be the first systematic formulation of the modern comparative method.[11] The method of agreement is by far the simplest and the most straightforward of Mill's methods, but it is also viewed as an inferior technique because it is likely to lead to faulty empirical generalizations. The application of this method is as follows: if a researcher wants to identify the cause of a certain phenomenon, he or she should firstly identify instances of the phenomenon and then attempt to determine which circumstance or condition that always precedes its occurrence. The circumstance that satisfies this requirement is the cause (Ragin 1990).

The method of comparison being put forward by Mills is applied to provide a comparative analysis[12] between different stages of growth and different government administration within Indonesia. A comparative analysis[13] between Indonesia with its

[11] Mill (1925) cited in Amitai and Frdedrie (eds.) (1970: 205-210).

[12] Ragin (1990) asserts that good comparative analyses must emphasize on cases and on variables. Historically, comparative social science has been more skewed about cases than about variables. Case-oriented discourse directly point to the events and experiences of cases, abstracting from their histories, characteristics and circumstances to construct theoretical significance. Beginning in the 1960s, a more shopisticated and 'radically analytic' techniques of data analysis shifted the balance towards variable-oriented discourse.

[13] According to Landman (2000), nowadays the reasons for comparing countries could be classified into four main objectives, which are: 1. Contextual description: to allow an inquiry to the condition of other country; 2. Classification: to simplify the phenomenon at hand, effectively providing the researcher with 'data containers'; 3. Hypothesis-testing: allows the elimination of rival explanations about particular events, actors, structures, etc. in trying to construct a more general theories; 4. Prediction: to forecast the likely outcomes in the future given the presence of certain antecedent factors.

Southeast Asian counterparts –particularly with Malaysia- and with the industrialized countries as a benchmark will also be conducted sporadically.

1.3.3 Approaching Southeast Asia

The major critique in studying Southeast Asia is that scholars tend to be western-biased in their framework of thinking. Many of the current economic analyses and methods are based on the mainstream economics deeply rooted in the capitalistic ways of thinking, mostly known from the work of Adam Smith. The so-called neoclassical economics doctrine has dominated many of the international organizations such as the IMF and the World Bank, and many of the policy elites and technocrats in the developing countries, and Indonesia is not an exception.

In order to break away from the western-biased approach and to gain deeper and critical understanding about the formulation of government policy in Indonesia, the study will also attempt to discuss explicitly the origin of ideas in policy making through some sort of biographical approach of the policy makers or an actor-oriented analysis of development policy (DeLong 2002). Why are some policies favorable compared with others?[14] Understanding the process of decision-making could give broader insight for policy analysis purpose. This is particularly relevant in Southeast Asia where the state and policy elites played a central and dominant role in economic development as well as in politics.[15]

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[14] For example, the capitalist development path that is being taken by Indonesia is actually not even mentioned in the Indonesian constituition. On the contrary, the 1945 Indonesian constitution actually oppose the notion of capitalism (by proposing a system called "Econonomic Democracy") by stating "The welfare of the society should be emphasized, and not individual welfare. As such the economy should be built as a joint effort based on 'azas kekeluargaan'. The structure of company that suitable then is cooperative (koperasi)." (Swasono 1995: 84).

[15] The "Berkeley Mafia" economic thought of capitalism has obviously defeated earlier models of deveopment being proposed by one of the founding fathers of Indonesa, Muhammad Hatta, which

1.3.4 Data Collection

The data that will be used in this research could be divided into two types: quantitative and qualitative data. First the quantitative data will come from the census conducted by the Central Agency of Statistics (also known in Indonesian as 'Badan Pusat Statistik'). The advantage of using a census data is that it allows for a greater degree of generalization. The drawback is that the census is for general purpose, the census was not done solely for this research. As such the census data has to be further processed to match the specific needs of this research. It can be said that there is an abundance of data, but a scarcity of information (Betke 2001: 5). These data would be most useful for an analysis of the social and economic structure. They provide data with individuals, households or villages as the units of analysis.

The types of census data that can be used are:

1. Consumption/expenditure data are collected through the National Socio-Economic Survey. The survey popularly known as Susenas (Survey Sosial Ekonomi Nasional), was conducted for the first time in 1963. Prior to 1980, Susenas was undertaken irregularly, i.e, in 1963, 1964/65, 1967, 1969/70, 1976, 1978, and 1979. Since 1980 Susenas was conducted annually, except in 1983 and 1988. Before 1980, consumption/expenditure data were always covered in every Susenas. But since 1981, due to the inclusion of some additional topics[16] (modules) into Susenas, the consumption/expenditure module as well as the other modules, have been collected every three years. Therefore, after 1980 the consumption/expenditure data are available for 1981, 1984, 1987, 1990, and

adopted a more Kaleckyan development view (Arief 1995: 104).

[16] Some of the modules (topics) are consumption, income, health and welfare modules.

1993. According to the schedule, this module will be covered again in the 1996 Susenas. The Susenas data are divided into two categories, namely core and module. Prior to 1992 what was termed as core consisted only five variables, i.e. four demographic and one educational characteristic of individual members of the chosen household. Starting in 1992 the core variables were expanded (called the 'new core'). This new core contains some basic information that is needed to generate yearly welfare indicators. Detailed description about the Susenas new core could be found in Indonesia's National Socio-Economic Survey. Susenas is a household survey, intended to cover all provinces of Indonesia to enable production of figures of national level. However, due to the limitation of budget and manpower, the 1963 and 1967 Susenas covered only Java, while for some other years, several remote areas were excluded. Prior to 1993, the Susenas sample size varied from time to time. The first four (1963, 1964/65, 1967, 1969/70) and the 1978 Susenas were designed to produce national and regional (group of provinces) estimates, while for the other years the sample size was representatives up to province level. From 1993 the sample size were increased up to more than 200,000 households, from only 65,000 households in 1992. Before 1992 the Susenas sample size was always below 60,000 households. The additional sample size however, applied only for the core questionnaire, while for the module questionnaires (including consumption/expenditure module) the sample size remained at 65,000 households.

2. Sakernas (Survey Ketenagakerjaan Nasional), otherwise known as the National Labor Force Survey (NFLS), is a nationwide survey conducted to obtain statistics on employment patterns in Indonesia. Variables include main activity last week, employment situation, type and status of main occupation, number of hours and days per work week in main occupation, wages received per week and month, whether respondent is looking for work, methods employed to find a job and how long the respondent has spent looking for work. Background variables include sex, age, education, province and county of residence.

Second, qualitative data, would be based on interviews with academics, public officials or policy makers from related institutions. The list of institutions that is relevant for the goal of this research is as follows:

1. Ministry of Education: to gather information related to the educational system, how it is planned, its structure, and the policy goals of the government.
2. Ministry of Manpower: to gather information regarding the labor market, its limitations, minimum wage policy, barriers of manpower planning, etc.
3. Coordinating Ministry of Economics and Finance: to get perspectives on the prospect of economic growth, barriers and key sectors for future growth, etc.
4. Ministry of Industry and Trade: to see the blueprint of industrial policy (if any), the trade prospect related to with free trade and globalization, etc.
5. Business sector: to gather information regarding the needs of the business sector, mismatch in the labor market, skills needed, wage and incentive system, etc.

6. International organizations: such as ILO, UN, UNDP, The World Bank, IMF and NGOs.

Other important sources of qualitative data would be the biographies of policy makers, policy documents, books written by policy makers. Written documents often provide valuable information compared with interview, since it is often a product of a more careful thinking. These secondary sources also enable us to analyze from 'within' the elites themselves, understanding why they do what they did, and the backgrounds and rationale behind it. Literature related to the topics, especially those written by indigenous scholars, would also provide excellent insights.

1.4 Contributions of the Research

Specific studies relating education (or schooling) with Indonesia's economic development have not been extensively explored and usually are fragmented. The existing literature usually consists of the following broad themes. First, it speaks of education as a part of demographic reality. It touches on education as the needs of the people that have to be fulfilled and what is the best way of fulfilling them and why it has not been fulfilled. The second line of reasoning usually relates education with the labor market, how a more educated labor could contribute more to the economy – and this is usually done in relation with the manufacturing industry.

Not many have tried to look into the evolution of education in Indonesia, relating it with the economic development process. As I have mentioned, the process could involve a two-way rather than a one-way relationship. Also as Indonesia is a

developmental state, the role and functioning of the state should be looked upon from the perspective of historical transformation and policy making processes.

As such I hope to contribute by examining the relation between education and economic growth in a more thorough manner, combining the perspectives from the household (demography), labor market, businesses, government, history and policy makers.

1.5 Concluding Remarks

This research attempts to conduct a combination of quantitative and qualitative method in trying to explore the relationship between education and economic growth. In addition, this research attempts on focusing more on the problems, rather than on the method – such that it justifies the application of a multi-discplinary research.

The hazard of doing a broad-based research is noted. But to view that more as a challenge for creating a conclusive research is more appropriate. After all, the focus in this research is in the 'human' aspect, as human behavior is highly unpredictable and varied, it is a necessity to provide a broad-based research in order to yield a justified judgment and analysis.

Chapter 2

Literature Reviews: Concepts and Definitions

Definitions on education and economic growth are discussed in this chapter. The literatures on 'human capital', the most straightforward concept highlighting the contributions of education towards education are also touch on. The argumentation outline for this dissertation is specified in the end of this chapter.

2.1 Education

Education unquestionably is important and has many roles to play in the society. In ancient Greece, where the state could be considered the main provider of education, Aristotle said:

> No one can doubt that it is the legislator's very special duty to regulate the education of youth, otherwise the constitution of the state will suffer harm. The citizen should be trained in accordance with the particular form of government under which he is to live; for each type of constitution has a distinctive character which originally formed it and makes possible its continued existence...again some preliminary training and habituation are required for the exercise of any faculty or art; and the same, therefore, obviously applies to the practice of virtue (Hummel 1999: 4).

According to Hummel (1999: 5) “Aristotle believed that, contrary to the common practice of his day, education was a responsibility of the state”. Thus, in this view education was equitable and expected of all citizens, not just the upper classes people. In this case, education would become a political matter, rather than a mere family affair.

There is, of course, the alternative view that education in general was to be considered a leisurely pursuit only available to the privileged few who belong to the elite classes. The poor, of course, do not have time to pursue education. They must use their time to work in order to barely survive. The rich, on the other hand, have time and money to spend. They could call upon a private teacher in their homes to bring knowledge for their families. That is why education is sometimes associated with the formation of social class.

Every civilization has its own perspective on the function and role of education. The ancient Greeks’ interest for education is because of ‘education’ itself, it is for the sake of science itself, it is perceived as ‘the way of life’ or ‘the art of living’ (Infinito 2003). The Greek’s ultimate goal was to prepare intellectually well-rounded young people to take active and leading roles in the government and society. The American system, which could be said is based on the Greek’s classical approach, emphasizes concentrating on academic ability. Under this system, learning leads to goodness.

The Hebrews’ and Muslims’ primary purpose for education was to train for lifelong obedient service to God. Abraham Heschel noted:

> "Genuine reverence for the sanctity of study is bound to invoke in the pupils the awareness that study is not an ordeal but an act of edification; that the school is a sanctuary, not a factory, that study is a form of worship (Heschel 1972 cited in Regalado 2000)"

The Islamic boarding schools in Java (the most densely populated island in Indonesia, which is the most populous Muslim-nation in the world), known as 'pesantren' (or 'madrassa') and are the training grounds for religious leaders. Traditionally, pesantren only taught an almost exclusively religious curriculum with little or no secular content (Bell 2000). The Chinese, some would say, are only interested in the 'pragmatic function' of education, as they mostly study fields that could help them to solve problems in everyday lives.

The goal of education or the way society views the function of education greatly affects the type of education provided. In ancient Greece, fields of art, politics, and philosophy became prominent. While today, the fields of computing, information technology, medicine and biotechnology seem to be at the forefront and attracting and yielding an increasing number of students and graduates. As shown in Table 2-1, natural and medical sciences have attained a considerable portion of students and graduates in Asia, ranging from the highest enrollment percentage of 62% (in China) and graduates of 61% (in Singapore) to the lowest percentage of 6% and 4% respectively (in Brunei).

Education, the most easily measured form of human capital, could be viewed like an asset such as land and other forms of wealth. Birdsall (1999: 1) maintains that education, however, is a special asset in two respects:

> First, once acquired, it cannot be stolen or sold -- it cannot be alienated from its owner. Second, as the amount of education increases, other assets such as land and physical capital decline as a proportion of total wealth in an economy; since the ownership of these latter assets is usually more concentrated than that of education, the overall concentration of all assets declines. Thus, an increase in education is likely to have an equalizing effect as long as it is broadly distributed.

In this respect, we could view education as a "capital" that is not prone to "capital-flight syndrome", one of the reasons for the 1997 financial crises that will be discussed in the next chapter.

Table 2-1 Tertiary education: students and graduates by broad field of study in Asia (selected countries), 1996

Country or territory	Percentage of students (and graduates) by field of study									
	Education		Humanities		Law and social sciences		Natural sciences, engin. & agric.		Medical sciences	
Asia										
Brunei Darussalam	♦ 62	(80)	1	(3)	19	(13)	6	(4)	–	(–)
Cambodia	26	(...)	2	(...)	29	(...)	23	(...)	20	(...)
China	♦ 16	(28)	6	(8)	9	(22)	53	(35)	9	(6)
Hong Kong SAR	...	(9)	...	(9)	...	(34)	...	(42)	...	(4)
Dem. People's Rep. of Korea	...	(...)	...	(...)	...	(...)	...	(...)	...	(...)
India	4	(...)	70	(...)	./.	(...)	25	(...)	2	(...)
Indonesia	17	(14)	6	(7)	46	(50)	28	(27)	2	(2)
Japan	8	(8)	56	(55)	./.	(./.)	23	(23)	8	(8)
Lao People's Dem. Rep.	...	(28)	...	(7)	...	(13)	...	(38)	...	(11)
Malaysia	...	(...)	...	(...)	...	(...)	...	(...)	...	(...)
Myanmar	0	(–)	42	(61)	22	(9)	37	(30)	–	(–)
Pakistan	...	(...)	...	(...)	...	(...)	...	(...)	...	(...)
Philippines	...	(15)	...	(6)	...	(31)	...	(28)	...	(19)
Republic of Korea	6	(8)	17	(18)	25	(28)	34	(38)	5	(6)
Singapore	...	(7)	...	(33)	...	(./.)	...	(58)	...	(3)
Thailand	9	(7)	4	(7)	60	(56)	21	(18)	6	(11)
Viet Nam	...	(...)	...	(...)	...	(...)	...	(...)	...	(...)

Source: World Education Report 2000, UNESCO's World Education Indicators.

We could consider two types of education: formal and informal[17]. Formal education usually happens in school. In Indonesia there are two types of formal schools available according to the Indonesian Law no 2/1989 (figure 2-9); one is the normal (secular) school (administered by the Ministry of Education, whether it is public or

[17] Pernia and Wilson (1989) stated that the term 'non-formal' is actually imprecise, since most of the informal education are actually being 'formalized' in a sense that there are registration process, regular class schedule and the providing of text-books and materials.

private); while the other is the Islamic religious school, known as madrassa[18] (administered by the Ministry of Religion Affairs). Indonesian madrassas[19] provide education also at three levels: primary, lower secondary and upper secondary. These schools teach the (secular) national education curriculum and use extended hours in which to teach religious and basic Islamic education and principles. According to Anzar (2003) the great majority of the madrassas are privately owned and operated while others operate under the Ministry of Religion (table 2-2). In addition Anzar (2003) stated that madrassas are less expensive than public secondary schools and provide access to basic education in rural and urban low-income communities.

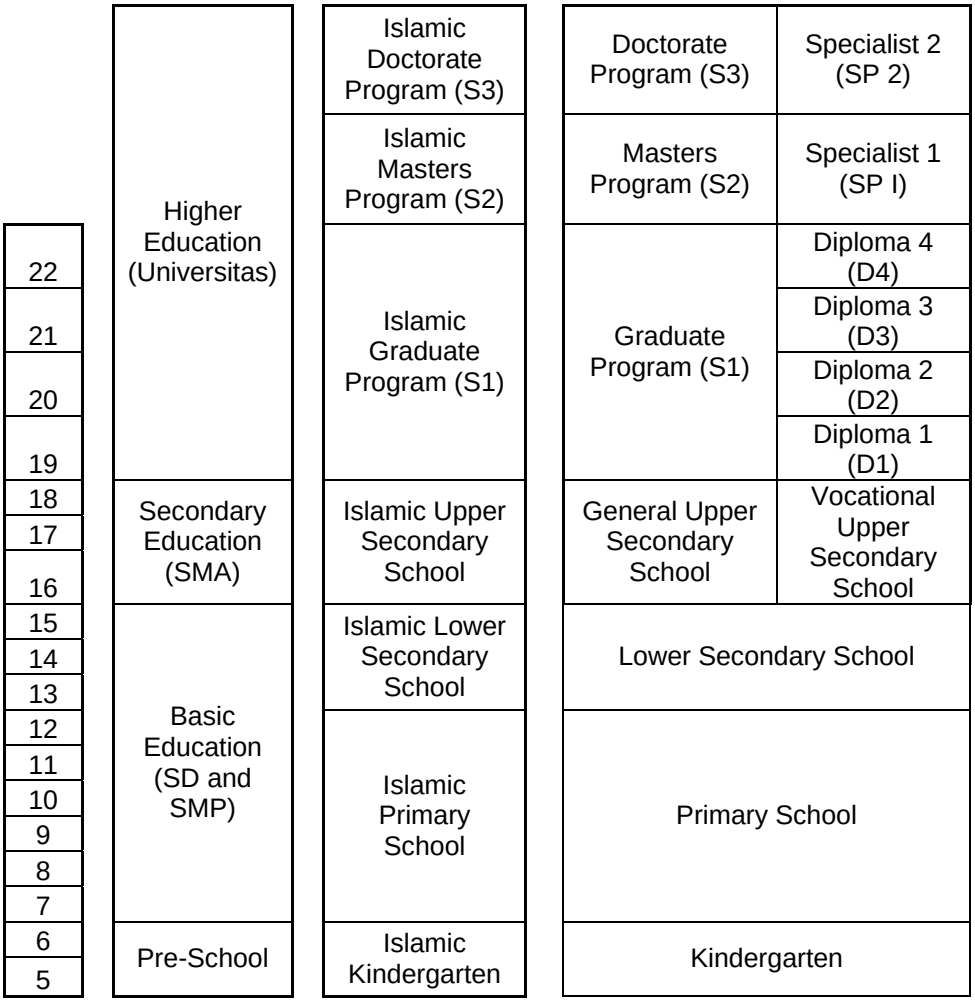
Table 2-2 Madrassas in Indonesia 2000-2001

Level	Private	Public	Total	Teacher Students Ratio	Number of Students
Upper Secondary	3130	575	3705	1:44	576,000
Lower					
Secondary	9,624	1168	10,792	1:10	1.9 million
Primary	20,554	1,481	22,035	1:18	2.9 million

Source: Ministry of Religious Affairs, Educational Statistics. "Indonesia School Year 2000-2001" in Anzar (2003).

[18] For a history on madrassa refer to Anzar (2003).
[19] Some of the Islamic informal education has its roots from the traditional Islamic education within the small village, usually held in langgar (small prayer house) (Pernia and Wilson 1989)

Figure 2-1 School System in Indonesia, Law No. 2 1989



Source: http://www.kbri.org.sg/education_system_in_indonesia.htm

The informal school or out-of-school education could consist of Packets A and B for elementary level and other private Islamic religious-school (pesantren) that may not be in accordance with the state regulation. The Pesantren is of special significance in Indonesia, since many national leaders (like former President Wahid) were graduates from pesantren and also later on built and established their own pesantren as well. Zamakhsyari (1999) as cited in Anzar (2003) described pesantren as:

> … independent Islamic self- governing schools, outside of the national Madrassa and public education system. They exist as a community with a compound, mosque and boarding system where students and teachers eat, sleep, learn and generally interact throughout the day. Most are located in rural areas. Pesantrens vary considerably in size from only a few hundred students to as many as 4,000 or more. The majority of Pesantrens have a customized curriculum that consists mainly of Islamic teachings that are based on the interpretation of the headmaster (Kyai) or the school of thought under which the school operates…. Many Pesentrens have a business to make it self-supporting, so they provide training for the students in trading, farming, cottage industries, and other community based incomegenerating activities.

Based on the latest data from the Ministry of Religious Affairs, in 2001, there were 11,312 Pondok Pesantren in Indonesia. In general, Pondok Pesantren can be categorized into traditional and modern Pondok Pesantrens, and the combination between the two (Nurcahyati 2003).

2.2 Economic Growth

Economic growth is usually measured by increases in real gross domestic product (GDP) or in GDP per capita, the increase in the national product, measured in constant currency. It usually means that a higher output is being produced in a certain region, with the expansion of production of marketable goods and services (Denison 1962: 3). Ideally, to be sustained in the long run, the increase in output should come from the widening of the production scale in a country as a whole, or from a more efficient use of its economic resources to produce goods and services. Since the productive capacity of a nation can only be increased in the long run, economic growth usually is considered a long-run phenomenon.

Social scientist attention towards growth has put much effort on understanding growth; for example why some countries are richer than others. This has become a very interesting topic explored by many academics. Denison's study (1962) in decomposing

the source of American economic growth could be said to be the initial effort in understanding growth, using a mechanistic and accounting framework from national income data in looking at the source of growth. Robert Solow in 1956[20] came up with the neoclassical growth theory with a main emphasis in the production function and thus focuses on the supply-side of the economy. The neoclassical growth model emphasizes capital as the engine of economic growth[21]. This would explain why a simple ratio such as ICOR (Incremental Capital-Output Ratio) has become important indicators for many development planners.[22]

The neoclassical model implies several important propensities, like the 'catching-up' and 'convergence' hypotheses[23] of economic growth because it assumes that there are diminishing returns to aggregate capital. The main weakness is that the neoclassical model basically concludes that (long-run) growth is exogenously determined (mostly by the level of technological progress[24]), so it is often referred to as 'exogenous' growth model (Arraes and Teles 2003: 1). Another weakness is that the neoclassical model could be seen to be ignoring the role of government policy in affecting long-run growth. This neoclassical growth model remained 'unchallenged'

[20] Rodrik (2003) quoted Solow (1956) as the 'landmark' in the neoclassical analysis of economic growth.
[21] According to Stiroh (2003) "…capital accumulation contributes to growth in the short-run, but long-run growth is totally determined by technical progress". Early classical economists such as David Ricardo (1951) and Karl Max also emphasised on capital and investment in machinery as a cause for the increase in the per capita income (in Greiner, Semmler, and Gong 2004).
[22] The ICOR measures the increase in output (or income) as a result of the increments to the capital stock (or investment) which is based on the Harrod-Domar growth model (1939,1947). Easterly (1997), calling the Harrod-Domar model as 'ghost' because it supposedly died in the academic literature some time ago, shows that despite the failure of Harrod-Domar model in explaining the performance of growth, it is still widely used (over 90 percent of country desk economists at the World Bank, for example) by leading international financial institutions for making growth policies and prescriptions.
[23] One of major implications of the neoclassical growth model is that, subject to certain assumptions, per capita income levels across countries should converge as they approach to their respective steady states.
[24] Solow (1957) as cited in Stiroh (2003) estimated that nearly 90% of the increase in U.S. output per person in the first half of the 20th century was due to broadly-defined technical change.

until the mid 1980s (Arraes and Teles 2003: 2) and has attracted much empirical research[25].

After the neoclassical theory, the endogenous growth theory (or the 'new growth theory') emerged in the 1980s starting with the work of Romer (1986) and Lucas (1988).[26] Romer (1986) attempted to endogenize the exogenous technological factor by arguing that research and development (R&D) would create externalities and spillovers to the aggregate economy by increasing the stock of knowledge that is accessible to other firms. Similar attempts to endogenize 'knowledge' actually has been done by Arrow (1962) who discussed "learning-by-doing" effects. Arrow defined that learning could only happen through experience, and that the level of 'experience' can be measured by the 'cumulative gross investment' (cumulative gross production of capital goods).

Lucas (1988) formally includes 'human capital' (defined as 'general skill level') in his paper. Some scholars differentiate between the 'growth' and 'level' (or stock) effect of human capital. Schumann (2002) asserts that the Lucas model would mean that economic growth would also depend on the human capital investment (the accumulation process) while other scholars like Aghion and Howitt (1998) and Benhabib and Spiegel (1994) strongly argue that the 'level' of human capital is most important for generating and fostering domestic innovation as well as speeding the ability of the workforce to adapt to new technologies.

[25] For examples of the empirical growth research refer to Mankiw, Romer & Weil (1992), Sachs and Warner (1995) and Krugman (1994).

[26] Fine (1998: 1) noted that in only three years, "…the number of articles explicitly drawing upon endogenous growth theory almost certainly borders on a thousand."

The two mainstream growth theories (neoclassical and endogenous growth model) above seemed to disregard the importance of natural resource as the engine of growth. The passage from Solow (1974: 11) has often been quoted and sometimes taken out of context. The passage is written below:

> If it is very easy to substitute other factors for natural resources, then there is in principle no 'problem.' The world can, in effect, get along without natural resources, so exhaustion is just an event, not a catastrophe.

Robert Solow (and many other growth theorists I suspect), may regard 'natural resources' as the same as 'capital'. But the two are actually very different especially in practical terms. Capital has often been associated with 'investment', as the difference in capital has often been said to be the same as investment ($I = K_2 - K_1$). But the value of natural resource usually would not be reflected in the investment figures. Investment figures in oil exploration, for example, would only reflect the exploration and the extraction costs of pumping the oil out, and not the value of oil reserves available. It is also somewhat strange that the 'endowment' of natural resources has often been viewed as a 'curse'[27] and 'disease[28]' that could hamper growth, rather than to an engine of growth. Indeed, in his latest book, Growth Theory: An Exposition (2000), Solow mentions hardly anything about the role of natural resources, while he devoted an individual chapter to discuss matters about human capital, technology and Schumpeterian ideas.

[27] Among others, Rosser (2004: 1) wrote "In general, then, there appears to be broad agreement among scholars that natural resource wealth is, perhaps contrary to initial expectations, a curse rather than a blessing."

[28] There is an economic phenomeon known as 'dutch disease', a condition where "…a natural resource boom and the associated surge in raw-material exports drive up the real exchange rate (or real wages), thus hurting other exports (Corden 1984 cited in Gylfason 2000)".

Another group of so-called 'structural transformation' development models is evident. The works of Chenery (1975) and Syrquin (1984) claim that as output grows, and development process unfolds, a concomitant shift in the composition of output also takes place with the production typically shifting away from agriculture towards manufacturing and service sectors[29]. The process of development is thus being described as "…a transition from a low income agrarian economy, to an industrial urban economy with substantially higher income" (Chenery and Syrquin 1989: 81). In this regard, industrialization is viewed as the 'engine' of growth or leading sector in the development process as Kaldor (1966) cited in Pieper (1999) also argued. Similar structuralist approach also provided by Boeke (1951) cited in Djojohadikusumo (1994)[30] and Lewis (1954) describes the economy as consisting of two sectors, namely modern (industrialized) and traditional (rural). Finally, Rostow (1956: 25) introduced the appealing concept of the 'take-off' stage, where he stated that the process of economic growth depends crucially on a relatively brief time interval (20-30 years) where the economy and the society within are able to transform themselves such that the process of growth become more or less 'automatic' and self-sustained.

Other social scientists, like Schumpeter (1911) cited in Fagerberg (2003) emphasizes the role of entrepreneur, innovation, creativity and ideas but still

[29] The shift happens because of the Engel Law (Engel 1857 cited in Foellmi and Zweim¨uller 2002) postulate that as income grows the budget share for food would be declining. The surplus created then would be invested in the manufacturing sector. As such the structuralist developmental model is also known as the unbalanced growth model.

[30] In Boeke, the dualism was more related with the social and cultural structure. Boeke categorizes two types of society, capitalism (commercial-industrial-financial) and pre-capitalism. In a capitalism social structure, 'needs' is viewed 'economically' and 'rationally', meaning that society is faced with unlimited wants constrained by limited resource. This condition would force the society to become 'efficient' in allocating their needs and to become more productive. On the other hand, 'needs' in pre-capitalism society is more driven by 'social needs', to maintain social status and social standing; such that it is consumptive and unproductive (Djojohadikusumo 1994: 68-70).

acknowledging the pivotal role of the elastic supply capital to facilitate the effects of innovations (through 'creative destruction') on economic growth. A different discourse is taken by Myrdal (1968) in studying why some countries remained poor despite their attempts to achieve modernization and industrialization; he concluded that cultural factors are the main culprit.

Some critics have been directed towards the structuralist approach. Sanchez-Ancochea (2005), who labels it as the "Anglo-Saxon structuralist", criticizes it because it believes in the uniqueness of the process of the structural change and ignores the special characteristics of developing and underdeveloping countries. The idea of the structuralist framework could be seen as originating from the unprecedented high growth in the economies of Western Europe (labeled as the 'golden age' of growth, 1950-73) and the structural transformation that accompanied them[31]. Rodrik (2004: 4) asserts that growth-promoting policies tend to be context specific and admits that "…despite a voluminous literature, cross-national growth regressions ultimately do not provide us with much reliable and unambiguous evidence on such operational matters..."

The theories of growth described above could also be classified according to the method used. Most neoclassical and new growth theories could be seen to be using 'inductive' reasoning, while the structuralist approach applied mostly deductive reasoning in developing their arguments.

On the other hand, some of the theories of growth developed by mainstream economists could pose some problems to the economics profession. Economics is regarded to be more removed from the real world and any practical relevance, thus

alienating itself from other branches of social sciences. Fine (2000: 10) even wrote that economics '..has been colonizing the other social sciences'. Fine (2000: 11-12) also asserts that "…it has become commonplace to complain that economists know very little about the world they inhabit." Blaug (1997: 3) gave an even grimmer glimpse of modern economics as follows:

> Modern economics is sick. Economics has increasingly become an intellectual game played for its own sake and not for its practical consequences for understanding the economic world. Economists have converted the subject into a sort of social mathematics in which analytical rigour is everything and practical relevance is nothing. To pick up a copy of The American Economic Review or The Economic Journal these days is to wonder whether one has landed on a strange planet in which tedium is the deliberate objective of professional publication.

Hodgson (2004) contends that "…the victory of technique over substance is a chronic problem within modern economics." In 1988, the Commission on the State of Graduate Education in Economics in the US set up by American Economic Association was worried that "…graduate programs may be turning out a generation with too many idiot savants skilled in technique but innocent of real economic issues" (Krueger et. al. 1991: 1044–5). [32]

In addition, despite its claim to be 'objective' and 'value-free', economics, as many other social sciences, are still highly related with 'ideologies'. As Lebowitz (2004) noted:

> Economic theory is not neutral, and the results when it is applied owe much to the implicit and explicit assumptions embedded in a particular theory. That such assumptions reflect specific ideologies is most obvious in the case of the neoclassical economics that underlies neoliberal economic policies.

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[31] For a recent discussion regarding this 'golden-age', refer to Temple (2001).

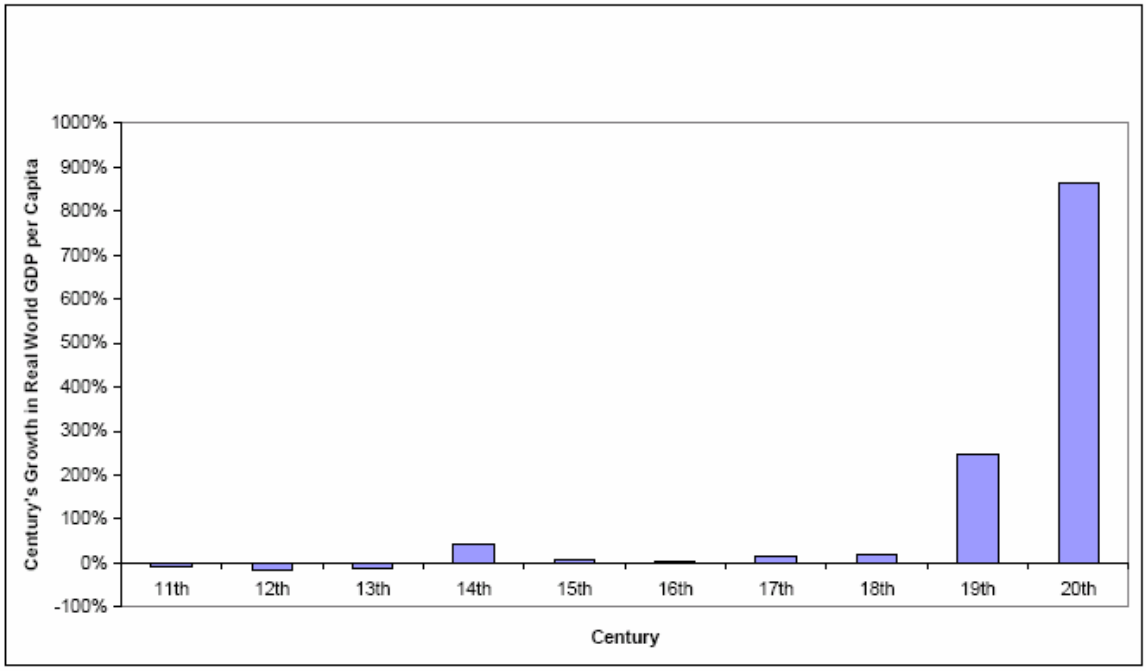
[32] The commission still, however, satisfied with the condition of economics graduate programs based on the notion that the graduates earnings were on par with their siblings in the engineering department.

In retrospect, the industrial revolution could be considered as the starting point of 'modern economic growth'. Indeed, industrialization is mostly seen as the prerequisite and the consequences of economic growth. Economic growth since the industrial revolution[33] has shown remarkable progress. Angus Maddison (1982) quoted in Goodfriend and McDermott (1995) estimates that for a sample of 16 industrialized countries, there was a 60-fold increase in the total product and a 13-fold increase in per capita product since 1820. Indeed, after the 18th century, growth in real world GDP per capita has increased markedly and this could be assumed to have its origin from the process of industrialization (refer to figure 2-2). Although this assertion might be biased from the East Asian point of view, because the origins were coming from the Europe or western paradigm where its main dogma of capitalism[34] stated that capital (which resembled 'machinery' in the real world) is the ultimate source of growth.

[33] Historically, industrialization started from the industrial revolution that usually originated from the period of dramatic economic and technical change happened in Britain between 1760 and 1850, where the steam engine first came into widespread use. The steam engine provides power for newly developed machines that previously utilized using the physical human hands. The first sector that gain benefits from it is the cotton textile industry and has facilitated further industrial innovation. Then the development of the internal combustion engine, atomic energy and computer technology sometimes is being referred to as "third," "fourth" and "fifth" industrial revolutions (Albrechtsen 2000).

[34] According to World-System Theory (Wallerstein 1976), a mutually reinforcing system of nation-states and a market system of capitalism emerged in Europe between 1450 and 1620 (McCormack 1999). For a complete history of capitalism refer to Beaud (2001).

Figure 2-2 Growth in Real World GDP per Capita, 1000-present



Source: DeLong (2000)

However, the impact of industrialization may have different consequences for developing economies such as Indonesia.[35] Industrialization may have a negative impact on the social structures or system that if not handled correctly would deteriorate the future economic growth and could lead to social instability in Indonesia since 1997 Miguel (2001). The phenomena of 'uneven development' in Southeast Asia have been discussed extensively by Dixon and Drakakis-Smith (1997).

Federman and Levine (2003: 1) summarize the pros and cons of industrialization as follows:

> From Adam Smith (1776) and Marx and Engels (1848) in centuries past to the 'Washington Consensus' of the 1980s and 1990s as discussed by Williamson in 1990, many analysts have made the case that industrialization brings "development." The implicit assumption is that industrialization improves a

[35] The positive impact of Industrialization has been largely acknowledged. For example, it is concluded that export-led industrialisation concentrated in Java-Bali has contributed to labor market transformation and income growth outside Java-Bali (Manning 1996).

> nation's well-being along a number of dimensions, including education quality and attainment. At the same time, Smith, Marx, and the originator of the term "Washington Consensus" (Williamson 1999) have warned of the potential downside of industrialization, including increased pollution, growing inequality, and lower social cohesion. An additional concern is that industrialization may reduce school enrollments by increasing child labor and increasing the need for youth to help in the home.

While for the case of Indonesia, ILO (1998: 27) notes that:

> The government's industrialization-led strategy neglected the development and diversification of the agricultural sector, compelling the country to use scarce foreign exchange to import ever-larger quantities of rice, soybean, sugar and other basic commodities. Industrialization, though rapid, remained highly dependent on imported materials, parts and components, and therefore generated limited value-added. Manufacturing did not develop sufficient technological depth, ignored the need to foster backward linkages with local suppliers, and deferred import substitution in basic materials, such as refinery products and basic metals.

The importance given to industrialization as the only path to growth and prosperity has also been fueled by neo-classical economists, with their emphasis on capital as the source of long-run growth. Most economic policies have revolved around 'capital' (in trying to utilize more capital, and how to use it efficiently). Indonesia is also a case in point. By adopting free capital-mobility and a flexible exchange-rate, Indonesia has managed to attract massive Foreign Direct Investments (FDIs) since its first deregulation in 1967, and a series of deregulations and reform efforts in the 1980s and 1990s. Simultaneously, the banking sector and the stock market have also been growing extensively, thanks to the efforts of government policies (through banking and financial liberalization) and the growing income and savings of the population. The result of these economic policies is not all bad, as Blalock, Gertler and Levine (2004: 4) noted:

> In 1965 when Suharto took power, Indonesia was widely considered one of the developing world's basket cases. GDP per capita, for example, was only half that of India, Bangladesh, or Nigeria. By 1997, Indonesia

> was known as one of the Tiger Cubs. Its GDP per capita was 3.5 or more times that of India, Bangladesh, or Nigeria.

As Alvares, et. al. (2003: 38) and Darnell (2002) pointed out, the developed or high-income countries, could be characterized by

> …a preponderance of workers who are fully integrated or at least directly affected by the characteristics of the new economy. The economies of these countries are heavily dependent on services and industry, and are heavily involved in the world economy (as measured by trade and investment). Virtually all competitive companies in major industries rely on the technologies and skills of the modern age, although a substantial number of jobs and firms that serve local or specialized markets can still productively absorb traditional workers.

For most of the developing countries in Asia, more often than not, the main source of economic growth and diversification is the transfer and adaptation of existing technologies from developed countries, usually in the form of FDI.[36] This is not to set aside the prospect of developing countries in achieving technological breakthroughs at their own expense, but the imbalance that occurs in technological capabilities and the lower R&D expenditures might make it a lot cheaper and profitable for developing countries to just imitate and apply the existing technologies from the developed countries (Ortiz 1994).

During the Soeharto era, Indonesia has put industrialization as the backbone of the economy. The period of industrialization was marked by extensive capital-intensive industries and massive foreign investment. As a result, the private sector has significantly replaced the state as the engine of growth.

Many economists believe that for growth to be sustained in the long run, it has to be based on the production side (supply side) or by increasing the productive

[36] FDI is said to have played an important role in rehabilitating Indonesia's economy especially at the

capacity of an economy. Focusing on aggregate demand (such as an increase in government spending or a cut in taxes) will only affect economic growth in the short run. Over the long run, the aggregate supply depends on the following factors which affect the potential output: capital, labor, natural resources, public sector investment, and human capital (Dornbusch et. al. 2001).

In this thesis, the term economic growth would be viewed in broader terms, in that it would be associated more with economic development. Economic development has a wider and broader dimension (like poverty, health and education), which actually tries to capture the meaning of 'welfare'. And, since 'welfare' is usually associated with 'income' and 'output' (economists have this rooted assumption that people's behavior is driven by the endless effort to maximize 'utility' which comes from the consumption of 'goods or outputs') the two terms actually have a very close relationship. As such even though the term "development" encompasses a wide range of phenomena ranging from indicators of "quality of life" to "human development," the increase in GDP is a major component of economic and social development (Kibritcioglu and Dibooglu 2001: 1).

Nevertheless, Adelman (2000) defines economic development as distinct from mere economic growth, which includes (1) self-sustaining growth; (2) structural change in patterns of production; (3) technological upgrading; (4) social, political and institutional modernization; and (5) widespread improvement in the human condition.

Aykut Kibritcioglu and Selahattin Dibooglu from the Department of Economics at the University of Illinois at Urbana-Champaign assert that economic growth and development is a complicated process that falls into the domain of many disciplines in

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beginning of 1967 (Setiawan 2002).

social sciences and humanities. Kibritcioglu and Dibooglu (2001) said that it is natural then to study the fundamental aspects of economic growth by synthesizing research in relevant fields.

As a summary, it is useful to look at other types of taxonomy of economic growth. Rodrik (2003) mentions the need to distinguish between the 'proximate' and 'deep determinants' of growth. Physical capital deepening, human capital accumulation and productivity growth could be the 'proximate' determinants, while geography, integration (trade) and institutions are 'deeper' determinants of growth (Rodrik 2003: 4).

2.3 Attention Towards Education as the Source of Growth

The focus on education as one of the factors contributing to economic growth began in the 1960s when the work of Schultz (1961), Denison (1962), and Becker (1962) shed some light on how (direct or indirect), and to what extent, education (either from schooling or on-the-job training) contributes to the enhanced productivity of the labor force and, in turn to growth in national income and to the economy at large. Initially, most of these human capital theorists, and to some extent the neoclassical or new growth theorists, seem to put more emphasis on on-the-job training as the 'human capital' or 'knowledge' that contributes to national income or economic growth. It is not surprising since it is easier, theoretically, to relate training with the theory of the firm both at the micro and macro level.

Although more attention has usually been paid to the accumulation of physical capital, and development specialists in the 1950s and 1960s came perilously close to

saying that investment in physical capital was all that mattered[37], important thinkers since Adam Smith have argued that education also has a critical role to play. Utilizing physical capital effectively surely requires many different skills be learned. Pyo (1995) in investigating how much the accumulation of human capital has contributed toward economic growth in South Korea reached a conclusion that human capital accumulation has been equally important as physical capital accumulation in explaining economic growth. Pyo (1995: 238) argues that:

> "…for a growing economy which has not yet arrived at a long run steady state and has not completed its productivity convergence to the industrial nation level, human capital plays the role of accumulating capital, complementing physical capital and labor rather than providing economy-wide externality as hypothesized by the endogenous growth models. The low estimates for the labor coefficient indicate that human capital is accounting partly for labor embodiment and partly for capital embodiment.".

Lee (1996) argues that the rapid growth of the Japanese and South Korean economies probably owed much to the mass literacy and numeracy achieved early in the process. This produced a labor force that adapted rapidly to changes in technology and the economic environment. Together with good economic management, this enabled agricultural and industrial productivity to be increased.

Richardson (1997) points out that there is a wide consensus in economic theory that human capital is an essential determinant of productivity growth. As well as facilitating technological advancement and diffusion of techniques, higher education levels may also improve the mobility of the labor force towards more productive activities, facilitating factor reallocation. Empirical evidence provides considerable

[37] Denison (1980) share his puzzled regarding the over-emphasized of capital as he wrote: "Why many people share a vision of growth that assigns exclusive attention to capital I do not know" (p.220).

support for a role for both the initial stock and the subsequent investment in human capital in fostering faster income growth. Educational expenditures by governments also have been found to have a strong positive impact, and the rate of return on public education is also found to be high. Barro and Sala-I-Martin (1995) find an annual rate of return on public education to the order of 20%.

Gundlach (1999) mentions that over the last ten years, growth theory has celebrated a remarkable come-back in mainstream economics. The new growth theories highlight the impact of human capital on economic development. However, Gundlach also felt that there is a relative lack of macroeconomic studies that support the presumed role of human capital in development in an empirically convincing way. When it comes to human capital, economic theory seems to be well ahead of measurement (Gundlach 1999: 7).

Investment in education should be viewed to be more specific than human resource development. A human resource development program could be successful in producing high level of literacy but much less so in the supply of skilled worker. A severe shortage of skilled and experienced technical and vocational personnel could act as a major constraint in economic growth (expatriates continue to fill key positions), such that Lim (1996) argues is the reason behind the under-developed nature in the South Pacific countries.

In addition, Krueger and Lindahl (2000: 14) concludes from their regression analysis that countries with more schooling would be expected to have a higher steady-state income so that more educated countries should be expected to grow faster.

2.4 Human Capital Theory and Productivity

Today, learning and education are viewed purely as secular pursuits. Economics perceives education as one of the components of 'human capital'[38] or sometimes termed as 'human resources' or 'human development'. It is being treated like 'physical capital': as one of the inputs for production of goods and services. It is no longer something that people do during their leisure times, as in ancient times. Education is a key to the job market, a prerequisite for work interview, a key to survive the globalizing world. Education is anything except what people do for leisure, students are even granted holidays for leisure after receiving their education.

The so-called "new growth theory" or "endogenous growth" perceive education or "Human Capital" as important or even more important than physical capital in achieving economic growth. Human capital is seen to be the key for any country to achieve long-term and sustainable growth path models. These endogenous growth models are trying to find direct links between human capital and investment in physical capital, with its relationship to economic growth (Lattimore 2002). For example Storesletten and Zilibotti (2000) cited in Storesletten (2000), argues that education, innovation and learning by doing have an effect on long-run economic growth and sustainable labor productivity growth. However, ambiguity in empirical results hinder consensus among researchers as to which educational policies produce sustained economic growth, despite the optimism that the new growth theory holds promise for future theoretical and empirical study of the relationship between human capital and growth (Dahlin 2002).

[38] Education is not the only factor building human capital; health is often cited as another factor

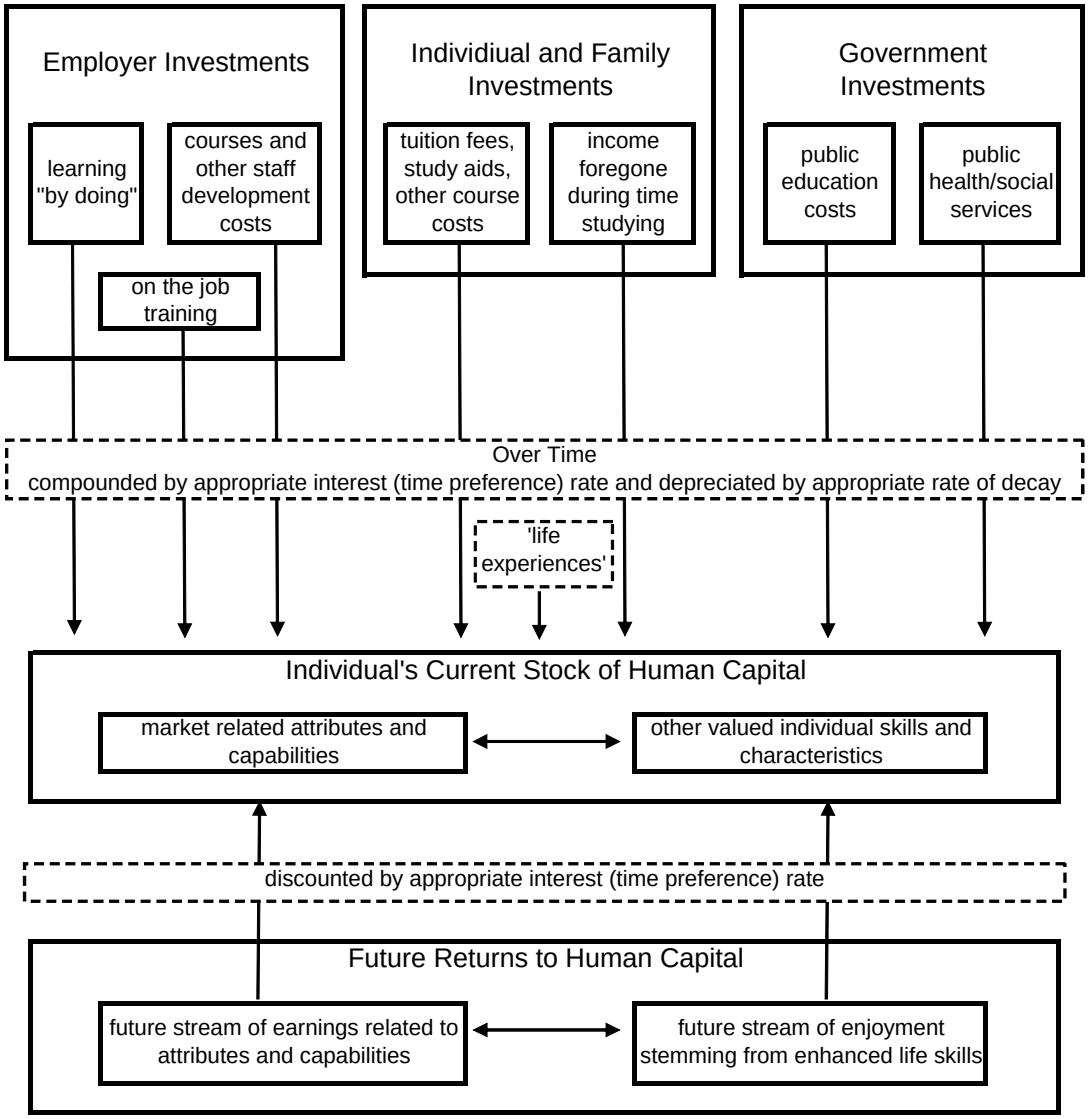
The theory of human capital developed by Becker (1964) and Ben-Porath (1967) and later by Mincer (1974) is considered one of the most important contributions in the field of labor economics. The human capital, particularly the one that is obtained through education, is a dominant factor to increase the long term competitiveness of an economy. Better educational attainment will make workers more skilful and productive. The abundance of well-educated workers facilitates the absorption of sophisticated technologies from developed countries through FDI.[39] In addition, the distribution of income is highly affected by the changes in the level and the distribution of schooling. The evidence demonstrates that higher attainment and more equal distribution of education play significant roles in the narrowing of income inequality. The improvement in equality of income, subsequently, would affect the long term growth of the economy positively (Lee 2000b).

The investment flow of human capital is shown in Figure 2-3.

contributing to human capital. The literature of investment in health actually is as old as the literature of investment in education.

[39] Higher foreign direct investment could lead to higher wages in locally-owned establishments and, since the foreign establishments pay higher wages than locally-owned ones, that higher foreign presence raises the general wage level in a province and industry. (Lipsey and Sjöholm 2001).

Figure 2-3 Human Capital: As Stream of Past Investments



Source: Statistics New Zealand, Review of the Statistical Measurement of Human Capital, Adolf Stroombergen, Dennis Rose, Ganesh Nana, November 2002.

The above chart signifies the treatment of economics towards education as an 'investment' or some sort of 'cost of capital' that provides returns from employment earnings. This could be categorized as the 'micro' or 'household' level impact of human capital. The 'macro' side is actually related with the 'productivity' level as it explained in economic growth theories. Indeed, 'productivity' (the macro side) and

'returns' or 'earnings' (from the household side) are closely related as one affects and directly connects with the others[40].

In terms of agricultural production, significant effects of education on productivity in agriculture are evident in several East Asian countries. According to the available evidence, the contribution of education to agricultural productivity is quite high in South Korea: one year of additional education was estimated to increase productivity by 2.22% (Jamison and Lau 1982). Education also influences the selection of technologies in farming. A better educated farmer may be able to choose a superior technology compared to a less educated farmer, and the productivity levels obtained with the new technology may crucially depend on the level of farmers' education. Education also acts as a complementary input for the appropriate use of technologies (Cotlear 1990 and Tilak 1999: 12).

A study by two World Bank economists, John Dixon and Kirk Hamilton, highlights the important role of human capital. The study estimates the total wealth per person in different parts of the world and then decomposed the total wealth into human capital, physical capital, and various natural resources. Their results are shown in Table 2-5 (Abler 2003):

[40] The nature of economic growth would also determine the employment effect; it is usually labelled the 'elasticity of employment' (Islam 2001). Some economic growth would create more employment and earnings compared with others. The export-oriented (in manufacturing) development being pursued by Indonesia has been able to create significant employment creation (and thus earnings) for the early 1980s. However, in the late 1990s the employment effect was not as large as before. In the latter period the largest gains were in services rather than in manufacturing. (James and Fujita 2000).

Table 2-3 Wealth per capita and components, by region, 1994

Region	Wealth per Person (PPP-Adjusted U.S. $, thousands), 1994	Sources of Wealth (%)				
		Human Capital	Physical Capital	Agricultural Land	Forests & Protected Areas	Minerals & Fossil Fuels
U.S., Canada	325	76	19	3	1	1
Australia, New	302	68	30	2	*	*
Zealand, Japan						
Western Europe	236	74	23	2	1	*
Middle East	146	38	19	5	*	38
South America	94	74	17	5	2	2
North Africa	54	68	26	2	*	3
Central America	52	79	15	5	1	*
East Asia	46	76	16	6	1	1
East & Southern	30	65	25	7	2	1
Africa						
West Africa	22	60	19	16	2	3
South Asia	22	64	19	15	1	1

Source: John Dixon and Kirk Hamilton, "Expanding the Measure of Wealth," Finance & Development, December 1996 in Abler (2003).
*Notes: Physical capital includes the value of urban land. Percentages may not add to 100 due to rounding. An * means less than 0.5%.*

It seems that the dominant form of wealth in all the regions is human capital except for the Middle East (38%) due to its abundant oil resources. The highest share of human capital is in Central America (79%). The share of East Asia is 76% while in West Africa is 60% and in South Asia is 64%. It is then interesting to understand why despite the high share of human capital in wealth, at least based on the calculation, the growth performance of those countries remains strikingly different and shows no signs of convergence.

The World Bank has also developed a parallel model of "The Four Capitals" that is deemed necessary if sustainable development is to be achieved- which includes (Henderson 2000):

- Social Capital (levels of trust, mutuality, shared norms and values and networks within a community)

- Environmental Capital (our natural resources)
- Economic (or fixed) Capital
- Human Capital (health, skills and adaptability)

The World Bank believes that these different types of capital are substitutes for one another, and when the total value of the four remains constant, then a sustainable growth can be achieved. If some natural capital is lacking, then, an increase in the value of 'human capital' – through education, for instance – is an adequate substitute and necessary to maintain a sustainable growth.[41]

Despite the growing view that human capital is as important as 'physical' capital, the latter has been regarded to be more important and directly linked to economic growth, either by government or by scholars. Governments have been using the indicator of 'investment' as a major indicator or goal of development, and to use it as a political currency and as a success indicator. In efforts to increase economic growth, more focus is given to investment; how to attract them, how to utilize them, etc. Less effort is given for building a solid human capital base. The exception is of course those countries that lack natural resource base, like Singapore. More recently, United Nations Development Programme (UNDP) has been trying to 'market' their new welfare indicators, the Human Development Index, to make governments care not only about their economic wellbeing but also about their citizen's welfare.

[41] Ibid.

2.5 Other Linkages of Education to Economic Growth

The theory of human capital could be the first theoretical ground that provides a direct linkage between education and economic growth. Education affects economic growth through the increase of skills in workers (that is on the assumption that an increase in the education of workers would lead to an increase in skills or capability of workers) that would make them more productive. Indeed, the higher level of skills of workers would make them more capable in applying new technologies or techniques in production that would lead to an increase in productivity.[42]

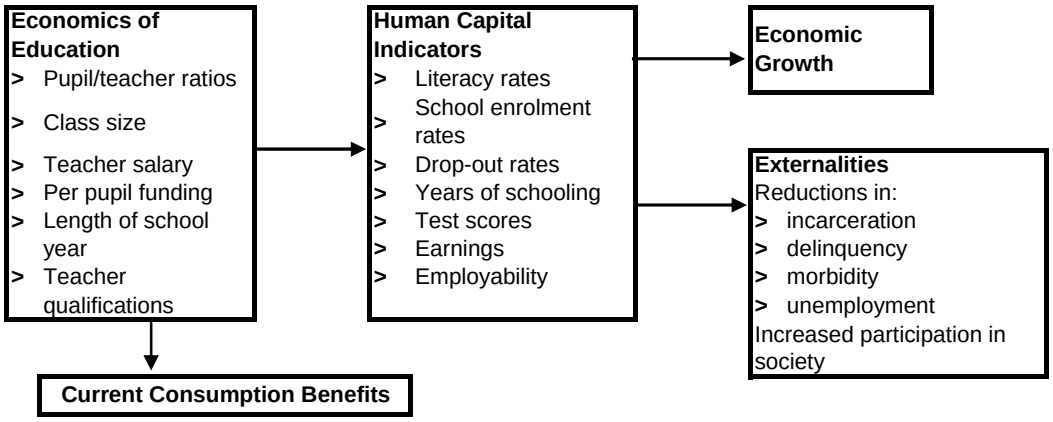
Besides the direct linkage of education and economic growth that happened in the labor market[43], there are other indirect ways that education could affect economic growth. Education – on the micro level - could help people to become a 'better' human being, forming strong and stable neighborhoods and for a conducive and enabling environment for growth to occur and to help overcome poverty.

These so-called indirect benefits, or 'externalities', create additional push for higher and a more 'meaningful' economic growth in terms of quality. The indirect impact of human capital and some examples of human capital indicators could be seen in Figure 2-4.

[42] A combination of FDI and capable workers could lead to higher productivity. For example, heavily-foreign plants in Indonesia tended to have higher average labor productivity than local plants in the late 1980s and in 1998 but lower or equal productivity in 1990-1997 (Takii and Ramstetter 2000).

[43] The nature (or efficiency level) of the labor market would also determine the earnings difference from labor with different educational background. A study at a manufacturing firm-level in Indonesia suggest that more educated production workers earned more than less educated workers. The results also suggest that the earnings differentials between more and less educated workers were smaller than corresponding differentials in marginal products for production workers. This could imply that the nature of labor market in Indonesia were not perfectly competitive (Takii 2000).

Figure 2-4 Indirect impact of human capital and human capital indicators



Source: Buffalo IGERT in Geographic Information Science, Human Capital Research Using GIS, http://www.geog.buffalo.edu/igis/IGERT_humcap.html.

In addition, the low quality of human capital is being seen as the major cause why poor countries cannot break-out of the poverty trap despite the sufficiently high economic growth that they have achieved[44]. It could also happen as a result of the deficiencies of private incentives (could be due to structural barriers) in investing in human capital. Individual choices – being left alone without intervention – could lead to the lack of human capital accummulation compared with the socially desirable level.

Individuals do not consider the positive externalities in making their decisions. If individuals – through correct incentives - could be guided to invest more in human capital, the human capital formation that is taking place in an economy could rise to the socially optimal level of human capital (Stark and Wang 2001).

Indeed the economic system is so complicated that identifying the exact role of education in economic growth might not be easy. Figure 2-4 describes the various factors in the economic system. Even if education does matter for economic growth,

how significant is it? More education surely would not be harmful. But for a developing country, where resources are scarce and capacity is limited, any resources spent on some sectors would mean less are available for other uses. However, the strong proponent of education would argue that a 'virtuous cycle' exists, where more educational investment leads to more growth and to further expenditure, especially in the case of developed countries (Irfan 2003).

Lim (1996) notes that education contributes to economic growth in six ways:

1. it improves generally the quality of the labor force by imparting skills and work knowledge;
2. it increases labor mobility and therefore promotes the division of labor;
3. it enables new information to be absorbed faster and unfamiliar inputs and new processes applied more effectively;
4. it improves management skills which leads to a more efficient allocation of resources;
5. it removes many of the social and institutional barriers to economic growth;
6. it encourages entrepreneurship by promoting individual responsibility, organizational ability, risk-taking in moderation, and planning over the long-term.

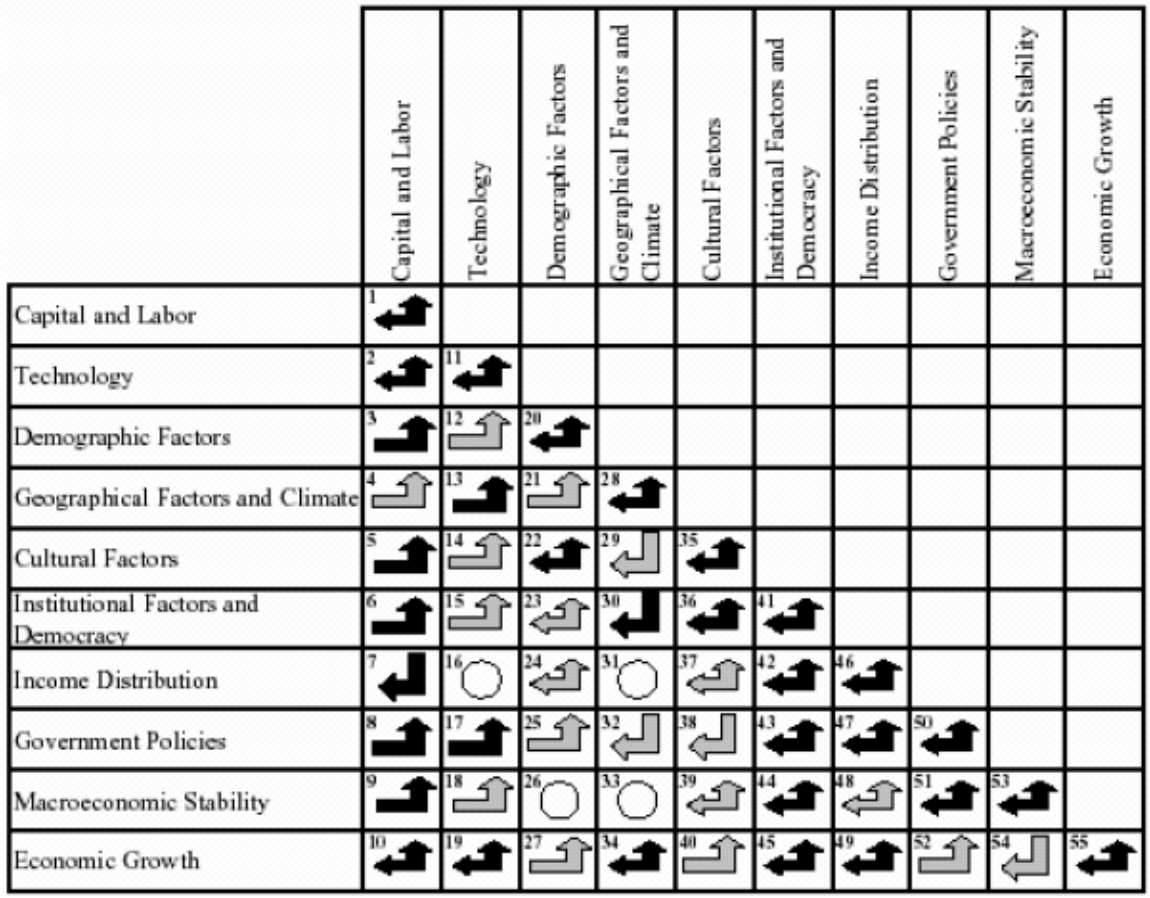
To conclude this section, the education level of population can affect the economy directly through the labor market by increasing the skills of workers and by creating entrepreneurs. Education also brings some positive externalities, like reducing unemployment, creating equality, creating an intelligent society that could lead to a better institution. Indirectly, or in the long-run, education could improve the

[44] A summary of relationship between economic growth and poverty is given in Sumner (2003).

technological capacity that is related with the endogenous growth theory proposed by Lucas (1988). While capital-oriented development models would assume free-market as the best institution for economic growth to occur (leading to policy like free-trade, deregulation and liberalization), policy for promoting education and/or technology should be done actively by government, since it has (positive) externalities and high risk such that should it left in the hand of business or else it would not reach the optimal level.

In trying to consider explicitly the two-way linkages between economic growth and other factors, Kibritcioglu and Dibooglu (2001) propose a matrix of interactions as a frame of reference. In this matrix, they claim, it is possible to summarize all potential linkages and hypothesize their relative strengths; they then hypothesize two-way linkages between possible explanatory factors and long-run growth as shown in the Figure 2-6 which indicates the aggregate set of factors interacting with economic growth into nine groups.

Figure 2-5 Possible Interactions in the Economic Growth Process



Note: There are 55 possible two-way direct linkages that form an intricate web of interactions. The direction of arrows in the numbered 55 cells of the table shows the expected direction of the influence between two sets of corresponding factors. A sign , for example, denotes an expected causality running from the row factor to the corresponding column factor. A bi-directional arrow ( ), on the other hand, is an indication of a two-way causality. Moreover, solid black arrows show stronger anticipated effects in comparison to gray arrows. Finally, cells with a hollow circle represent weak or negligible interactions. Note that these arrows represent direct two-way interactions; causal effects through third variables are possible as indicated by their relevant cells.
Source: Kibritcioglu and Dibooglu (2001: 8).

2.6 Recent Studies about Education in Indonesia

Ibrahim (1998) discusses the role of investment in human capital in the form of education for ASEAN countries. Specifically Ibrahim studied the impact of investment in human capital by differentiating between primary, secondary and tertiary education towards economic growth for ASEAN countries. It is interesting that Ibrahim has

differentiated the impact of each educational level towards economic growth. The basic premise is that, of course, as a nation grows economically the skills needed – thus the level of education required – would also experience some forms of structural change. Ibrahim also provides estimates of rates of return to each level of educational investments for ASEAN countries.

In addition, Ibrahim (1998) shows that educational investment at each level of education is a productive investment that yields high rates of return. Her estimation on ASEAN countries shows that the social rate of return is highest for primary, followed by secondary and tertiary education.

Lee Kam Hing's (1995) study analyzes the development of education in Indonesia, especially from the historical and political angles, for the period of 1945-1965. It highlights the tension arising when Indonesia was experiencing a transitional phase from colonial to independent government. Lee highlights the closeness of the link between education and politics, before and after independence. The link between the two is actually a two-way relationship, where political actors often used education as a means to achieve some goals. On the other hand discussions in the education fields do exercise some influence on the country's political history. Thomas (1973), in analyzing the Indonesian Higher Education, provides a policy analysis on education sector for the period of 1920-1970.

As for indigenous scholars, the works of Tilaar (1995, 2000 and 2003) describes more recent developments in the Indonesia schooling system as well as policy analyses and some historical perspectives. Atmodiwirio (2000) discusses the schooling management system in Indonesia during the colonial and new order era. Mastuhu

(2003) discusses the effectiveness of the new schooling system in Indonesia in coping with globalization. As the state has a pivotal role in Indonesia's development, the type of 'state' that was and is evolving in Indonesia would also significantly affect the education system. This kind of phenomenon also happened in Korea, for example. Kim and Lee (2001: 18) mention how the state has influenced the state of education system in Korea:

> The prevalent practice of private tutoring in Korea can be traced to the paradigm of developmental state that pursued rapid economic growth through industrialization and export promotion. Following the universal primary school education, the military government has equalized secondary education so that opportunities for secondary education greatly expanded. Concerns over the excessive wasteful competition among students to enter better schools during the process of rapid expansion of school system made the public more receptive to the strong government intervention on education.

As such, it is important to examine the paradigm of the state development model in Indonesia to provide a more thorough understanding of educational issues.

2.7 Miraculous Growth, Developmental State and Industrial Policy

The dramatic (and not-so-dramatic) growth experiences of East Asian countries after the World War II have received much attention. Basically the 'successful' experiences of Japan, Taiwan and South Korea have contributed to the term "Asian Model" of economic development. Noland and Pack noted that for a period of roughly thirty-five years, Japan, the Republic of Korea, and Taiwan have implemented industrial policies aimed at altering the sectoral structure of production toward sectors believed to offer greater prospects for accelerated growth than a typical process of industrial evolution would generate (Loayza and Soto 2002). This 'typical process of industrial evolution' could be assumed to refer to the type of industrial evolution that

comes under the free-market or capitalistic system from the developed countries' experience in the west.

Powell (2003) describes the model as one that "maintains some international market forces, but also involves heavy direction of the economy by state industrial development planning agencies". The term "industrial policy"[45] evokes the image of Japanese bureaucrats of the 1960s or 1970s vintage picking high growth sectors ("winners") and guiding industrial firms into those sectors through financial incentives and an appeal to their sense of obligation to society (Mody 1999). Chalmers Johnson (1982: 21), also uses the terms 'miracle' and 'effective' to describe the involvement of the Japanese state in the economy. The model seems to be considered a form of 'best practice' that other Southeast Asian countries eagerly tries to mimic. Singapore for example launched a "learn from Japan" campaign in 1978 while Malaysia began a "Look East" policy in 1982 (Lee (2000)).

These attempts of generalization in 'best-practices' are not without critics. Haggard (1990) considers country-specific conditions and circumstances to be the main determinants of policy outcomes and any attempts to generalize then would be disappointing and fruitless. Autonomy of the Developmental State means that there is public-private cooperation and relationship in which the state (and the developmental or policy elites) independently (or autonomously) develops national goals and translates these broad national goals into an effective policy action (Karagiannis 2002). Leftwich

[45] Bora, Llyod and Pangestu (1999) contend that at the outset that industrial policy is not a well-defined term. "It is ill-defined in relation to the objectives, the industries which are covered and the instruments that are used. The World Bank (1993) cited Bora, Llyod and Pangestu (1999) has provided a working definition of industrial policy as "government efforts to alter industrial structure to promote productivity based growth." This definition is useful as it focuses on the objective of economy-wide factor productivity growth rather than merely changing the structure of industrial outputs."

(1995) (in Auty and Gelb 2001) bases his characterization of seven successful developmental states (South Korea, Taiwan, China, Indonesia, Malaysia, Thailand and Bostwana) and identifies six key features:

1. A determined developmental elite, in:
2. A weak and subordinated civil society, which confers:
3. Relative autonomy, that is deployed by:
4. A powerful, competent, insulated economic bureaucracy, in:
5. The effective management of non-state economic interests, while:
6. Political legitimacy is conferred by repression, and then, performance.

Fang (2000) quoted in Shen (2000) asserts that the East Asian Model could be characterized by the following six traits:

1. high investments in science and technology, and research and development
2. high investments in quality education and human resources development
3. high savings and investment rates
4. a conscious policy of export promotion
5. equitable growth
6. a stable and strong macro-economic environment

Responding to the miraculous growth performance, the World Bank (1993) has written a special report about the rapid growth of eight East Asian Economies titled "The East Asian Miracle" (World Bank 1993). The report (p. 367) in Quibria (2002) listed six lessons that it claims to be a 'mantra' that countries need to follow, namely: keep the macroeconomy stable, focus on early education, do not neglect agriculture,

use banks to build a sound financial system, be open to foreign ideas and technology, and let relative prices reflect economic scarcities. This study also found that a successful export push, whether an outcome of open economic policies or of ingenious policy interventions, offers large economic dividends.

Only four years later, the East Asian financial crisis in 1997 produced mixed effects regarding the effectiveness of the 'developmental state' or the so called 'Asian or East Asian model of growth'. Wade (1998, 2000) attributes much of the blame for the crisis to departures from the state-directed model. "Had the governments not abandoned some basic principles of the East Asian model – above all, the principle of strategic rather than open-ended integration into world financial markets – the economies would probably not have experienced a serious crisis, although they would have grown more slowly" (Wade 2000: 107 quoted in Powell 2003).

The East Asian crisis can also be viewed as a failure of industrialization itself. The manufacturing sector in Indonesia was the most badly hurt by the crisis, while on the other hand the agricultural sectors had slightly benefited from the crisis due to the devaluation that has made their products more competitive[46]. Anecdotal evidence would show that some farmers may well receive windfalls due to the crisis and had been able to improve their welfare significantly.

East Asia's corporate structure and governance mechanism that had acted as the engine of growth for the rapid industrialization in the past are under scrutiny in the wake of the 1997's financial crisis. The close relationships between government and

[46] The worst contraction was in the construction sector (-39.8 %), the financial sector (-26.7 %), trade, and hotel and restaurant revenue (-18.9 %). Other sectors, which have large contractions, are manufacturing (-12.9 %) and transport and communication (-12.8 %), while mining and other service sectors experienced a contraction around 4.5 %. The agricultural and the utility sectors still experienced

business, heavy reliance on bank debt, and the emerged conglomerate firms are under criticism for "cronyism" and wasteful investments in real estate and currency speculation (Mody 1999).

Peter Evans (1995) describes the state in East Asia as possessing an "embedded autonomy." Moody (1999: 18) states that:

> The autonomy permits the government to set national goals and to discipline private sector behavior. However, the state is also embedded in the broader social and economic milieu through personal ties between government officials and leaders of the private sector. This delicate balance between personal relationships, which foster information flows and create trust, and autonomy which allows the government to pursue a broad-based social agenda is, according to Evans, the key to East Asian success. East Asia is thus distinguished not only from predatory states such as Zaire (where the state is rapaciously autonomous) but also from intermediate states, such as India and Brazil, where neither autonomy nor embeddedness prevail.

Pack and Nelson (1997) and Felipe (1997) further divide the theories of the Asian Miracle into two groups[47]:

1. The Fundamentalists (accumulation theories), who claims that growth in the region was mainly input driven, because investments were moving these economies "along their production function".
2. The Assimilationists (assimilation theories), who argues that the essential component of the recipe followed by the East Asian countries was the acquisition and mastery of foreign technology, and the capacity to put ideas into practice. These theories stress the entrepreneurship, innovation and learning that

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positive growth of around 0.2 and 3.7 % respectively. (Setiawan 2000: 43-44).

[47] Felipe (1997) divide the categories into three, the last one to be the nihilistic view, who maintain that the whole debate about the sources of growth is misplaced due to a serious methodological problem inherent in the tools used in the analysis.

these economies had to go through before they could master the new technologies they were adopting from the more advanced industrial nations; it sees investment in human and physical capital as a necessary, but far from sufficient, part of the assimilation process.

For the Fundamentalists, rising human capital is treated simply as an increase in the quality or effectiveness of labor while the Assimilationists see the effects of sharply rising educational attainments to provide important pillar for successful entrepreneurship. Both neoclassical and assimilationist theories put considerable emphasis on investments in human capital. By stressing the importance of innovation and learning, and the role of an educated work force in the processes, the assimilationist might push even harder on the education front than would a modern neoclassical economist (Nelson and Pack 1997).

Actually it is difficult to assess whether the World Bank Report of East Asian Miracle actually endorses or curses the developmental state model in East Asia. Wade (1996) stated that the report was written under the influence of three very different constituencies: the Japanese government who financed the report; the World-Bank economists, and the larger background which include the neoliberal establishment in the World Bank, IMF and the Washington establishment. Rigg (2002) maintains that the East Asian Miracle report does not make clear on which particular ideological position it justifies, and Wade (1996: 28) considers the report as "…a report that is not only in places inconsistent with its argument but one which can also be used to justify a range of apparently contradictory positions."

To conclude, the World Bank report actually cannot be interpreted without considering the type of political and or government regimes in East Asia. Most, if not all East Asian governments and state cannot be classified as 'democracies', as they are labeled as "Soft Authoritarianism" (in Malaysia and Singapore) or "Authoritarian" in Indonesia (Means 1996; Liddle 1996). As such it is sufficient to say that the Governments in East Asia, have massive control over its society and development path, notwithstanding the fact that the dichotomy of 'strong' and 'weak' state exists.

2.8 Conclusion: Argumentation Outline

The large body of research regarding the relationship between education and economic growth can be divided into three levels of analysis, which are described below.

2.8.1 The Macro-Aggregate Level (Human-Education-Skills)

The growth theories developed by mainstream economists (neo-classical, endogenous and new-growth theory) tend to fall under this label. The focus of this mainstream economies is on the production side or aggregate supply side. The reason is that they see economic growth as mostly long-run phenomena, while aggregate demand, according to the mainstream, deals only with the short-run period. However, it has never been clear what time span 'long-run' or 'short-run' implies. In dealing with this, Mises (1949: 296) argues:

> …we must guard ourselves against the popular fallacy of drawing a sharp line between short-run and long-run effects. What happens in the short run is precisely the first stages of the chain of successive transformations which tend to bring about the long-run effects.

The contribution of education towards economic growth in this framework is assessed by using the production function (aggregate supply) approach or by applying and measuring the total factor productivity concept.

2.8.2 The Household Level (Human-Education-Allocation)

This framework is closely related with the 'Human Capital' ideas proposed by Becker (1964), Ben-Porath (1967) and Mincer (1974). This model explains the cost of schooling, which includes not only financial costs, but also 'opportunity costs' (i.e. 'income foregone') of schooling. Gary S. Becker wrote that "..on average, three-fourths of the private cost—the cost borne by the student and by the student's family—of a college education is the income that college students give up by not working."[48]

A rather complicated issue is that the students, as the 'consumer' or 'investor' of education, do not bear the costs directly; their parents do instead. As such, the background of the family is truly important in analyzing the decision for schooling.

2.8.3 The Ideology-Policy Level (Human-Education-Ideology)

While economics theory attempts to explain and to understand the phenomenon of economic growth, indirectly the knowledge and ideas of 'economic growth' affected the people in return. These influences appeared more clearly in the policy-making process, where the thinking of the elites, either conscious or unconscious, reflects their bounded rationality of knowledge that they receive and believe in, especially in the developmental context of Southeast Asia. As John Maynard Keynes cited in Formaini (2002) stated:

[48] http://www.econlib.org/library/Enc/HumanCapital.html.

> The ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed, the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist. Madmen in authority, who hear voices in the air, are distilling their frenzy from some academic scribbler of a few years back. I am sure that the power of vested interests is vastly exaggerated compared with the gradual encroachment of ideas…. But, soon or late, it is ideas, not vested interests, which are dangerous for good or evil….

This view is highly related with the 'developmental state' paradigm for the East Asian countries and for viewing history from the elites perspective.

2.8.4 The Institutional Level (Human-Education-Institution/Culture)

The structuralist, as well as other historian or political scientist, falls into this category. Simon Kuznets (1941) stresses the importance of history in understanding the economic growth process. Without history, the economic analysis of growth would remain 'out-of-context', it would not describe the 'reality' and 'contextual' meanings following the quantitative analysis of the growth process. However most current mainstream economists seem to neglect history, like McCloskey (1976: 434) (cited in Fine 2000) argues:

> Smith, Marx, Mill, Marshall, Keynes, Heckscher, Schumpeter, and Viner, to name a few, were nourished by historical study and nourished it in turn. Gazing down from Valhalla it would seem to them bizarre that their heirs would study economics with the history left out … Yet this is what happened. It began in the 1940s, in some respects earlier, as young American economists bemused by revolution in the substance and method of economics neglected the reading of history in favor of macroeconomics, mathematics, and statistics

One weakness of this approach is that the theories were developed from the successful experience of the developing countries. Landau (2003: 218), on the other

hand, argues that "…what needs to be explained is not growth but the failure to grow, the failure to engage in the natural process of investment and innovation."

This view stresses the importance of institution in understanding growth. However, recent findings by Blaeser et. al. (2004: 275) suggest that actually growth could lead to institutional improvement and is feasible without institutional improvement. Also Rassool (1999) (cited in Bruthiaux 2000: 272) argues that the Rostow (1960) model has often prevented the developing countries from defining their own development goals and paths in their own terms through its 'value-free' model of economic development that later on led these countries to failure.

Education would create the society needed for 'taking-off' into modernization. Education could also be seen as the prerequisite or sufficient condition for the mushrooming of innovative ideas, entrepreneurship, and to start-off and maintain the 'creative destruction' process.

2.9 Concluding Remarks

As economic growth includes wide arrays of changes and transformations, its relationship with education requires a clear argumentation outline from the large body of research. Constructing a four level of analysis between education and growth would provide a clearer understanding about the nature and impact of education on growth, vice versa.

Chapter 3

The Economic Growth Process in Indonesia

This chapter examines the process and progress of the Indonesian economy. The focus would be on analyzing the source of growth during the respective periods. Oil revenue was important in financing the Indonesian economy during Soekarno and Soehartos' period, up to the deregulation period in the 1980s. After deregulation, (manufacturing) non-oil export replaced oil export as the growth engine, supported by the globalization era in the 1990s. The crisis in 1997 seemed to halt economic progress in Indonesia, with investment activities dilapidated and growth was left to rely only on private consumption.

3.1 Soekarno's period

After independence in 1945[49], the first president of Indonesia, Soekarno, had put more effort in the nation-building process rather than to boost economic performance. Soekarno was described to have little interest in economics and mismanaged the economy such that the Indonesian economy had 'disintegrated' under

[49] Some authors considered Indonesia to become a sovereign state in 1949 (for example, see Higgins (1957: xi) and Sato (2003: 3)).

his rule (Fisher 1967: 155). Despite Soekarno's vice president, M. Hatta[50], was actually an economist by training, not much has been documented regarding economic policies or achievements during Soekarno's administration.[51] Nevertheless, in 1956, in his opening speech for the first elected Parliament on March 26, Soekarno showed some interest in seriously managing the economy, as he said that Indonesia is now entering a new phase of 'planning and investment[52] (Higgins 1957: xxi).

Veig (1963) groups Indonesia with other countries like China, India, Pakistan, Korea, Vietnam, Laos, Cambodia, Burma as 'underdeveloped' and backward . Veig (1963: 54) only praises the Israelis, Lebanese, Nationalist Chinese, and the Filipinos as maybe having gotten through the problem of poverty and underdevelopment such that they could be regarded as 'masters of their own economic destiny'. The cause of such miserable conditions, according to Veig, is the absence of managerial skills, climate, and efficient bureaucracy.

Others, like Benjamin Higgins, a former monetary and fiscal advisor for Indonesian government in the late 1950s, also helped to build the first Indonesian government five-year development plan (under Soekarno). He also co-authored Indonesia: The Crisis of the Millstones (1963) in which he described the country as a "chronic dropout" and "the number one failure among the major underdeveloped countries" (in Hill 2000). Despite the criticism, Higgins (1963: 48) actually praises Indonesia: "How was it possible for a country with such fertile soil, and so varied

[50] Hatta was once considered "the man who direct the Republics economic policies by virtue of his position as chairman of the Economic Planning Board". (Wolf 1947, p.184).
[51] This lack of documentation was probably also related to the 'history misalignment' by the Soeharto government. But it also could be due to the fact that shows the little interest that Soekarno had on economic matters.
[52] At that time per capita income of Indonesia is about $100 per year.

mineral and energy resources, inhabited by an intelligent and gifted people, to be so poor?".

In 1950, the structure of Indonesian economy was shattered because of the war. Java Bank in Booth (1996) estimates the production by sector as a percentage of pre-war levels:

Foodcrop Production	: 70-75 percent
Smallholder tree crops	: 30-35 percent
Estate agriculture	: 20-25 percent
Fisheries	: 50 percent
Mining	: 20 percent
Industry	: 30-35 percent

With this condition, the business or private sector could not be expected to support economic growth and development. Low savings mean low investment, and the financial sector has only started to be restructured. It is natural then to expect that the performance of the economy would be very much dependent on the state capability to manage and to actively improve the business activities. But again, the state's ability depends on its budget, one concept that Soekarno had failed to realize, leading to soaring deficit and inflation in the end of his administration[53].

[53] The Soekarno's administration relied primarily on the central bank to finance the government's budget deficit from the mid-1950s onwards (Fane 1994).

3.1.1 Role of investment and industrialization

The process of economic development and its policies in Indonesia is very much affected by the so-called neo-classical and liberal economics framework, with much emphasis put on capital and industrialization. As early as May 1956, as Ir. Djuanda (the Minister of National Planning at that time) presented the five-year development plan for 1956-1960 to the cabinet, the importance of capital was highlighted. The plan had set investment target at 6% for the first five-year plan[54], then consecutively 8.6%, 12%, 16.2% and finally 20% when the five-year plan would be expected to end in 1975 with an increase in ICOR to 4:1. In the first five-year plan, total investment was expected to reach Rp 30 billion (Rp 6 billion p.a.). This investment was expected to raise national income by 3%, where the implicit incremental capital output ratio was 2:1. The emphasis put on industrialization was also evident from the fact that industry and mining received 25% of the total budget whereas agriculture only received 13%. (Higgins 1956, 1957). Higgins (1957: 50) describes the 1975 period to be "a stage of self generating expansion".

The beginning of capitalist orientation of Indonesian development planning was probably due to the strong influence from international advisers from the IFIs (International Financial Institutions). Benjamin Higgins, one of M.I.T. economists heading the *Indonesia Project* in July 1955 financed by the Ford Foundation and a Visiting Professor of Economics, maintains that:

> Economic Development is largely a matter of capital accumulation or net investment. No doubt improvement of labor skills by training, and provision of incentives for more and better work, can do much to raise productivity and standards of living. But the dramatic economic progress

[54] During the period 1951-55, net capital formation was 5-6% of GNP, and the annual increase in GNP was around 3%. The ICOR for this period then would be less than 2:1 (Higgins 1957: 48).

> in Europe during the eighteenth and nineteenth centuries, and in the New World during the 19th and 20th, has resulted mainly from technological progress of a kind involving net investment in plant and equipment of a labor-saving type. Even in agriculture, where great strides have been made during the last century, this statement holds (Higgins 1957: 54)

Higgins also pointed out the need of Indonesia to industrialize (which would imply again the importance of capital), as he writes:

> The problems of Indonesian agricultural society cannot be solved by agricultural programs alone…..Only industrialization can turn the (dynamic) disguised unemployment into productive work. (p.81)

The role of foreign investment during Soekarno period was also said to be 'minimal'. The cabinet under Ali Sastroamidjojo (1953-1955) was said to be the beginnings of 'a more militant policy towards foreign investment' (Thee 1996: 327).

FDI in Indonesia basically stopped after 1941, with no replacement of investment activities by the domestic sector (Mackie 1996: 339). This has contributed to the economic stagnation during Soekarno period. If not because of oil, no FDI, and probably no investment activities would have occurred during Soekarno period. During the 'Guided Democracy', the business climate was even worse for any business investment attempts as Soekarno nationalized all Dutch businesses in 1958. Only public investment has occurred during this period, for example Gresik cement in the 1950s and some minor Bappindo projects (Mackie 1996: 340).

The lack of investment was also caused by the high degree of unused capacity in the industrial sector that had reach more than 70% in 1966 (McCawley 1981: 64). As McCawley (1981: 63-64) notes:

> General conditions for manufacturing industries during the fifties and sixties were poor. The overall economic and political climate was highly uncertain and official policy was increasingly to favour public sector

> manufacturing activities … Throughout the early sixties foreign reserves were low, so tight controls were imposed on the allocation of foreign exchange which caused shortages of imported raw materials and spare parts.

This lack of investment could be seen as one of the barriers for government or businesses to generate sufficient employment in the more productive sectors in the economy. Indeed, manufacturing labor shares between the 1931 and 1961 Population Censuses had actually been declining (Booth 1996: 420).

It could be concluded that during Soekarno's period, Indonesia's economic policy was inward-looking with most of its government budget revenues depending heavily on foreign trade (Booth and McCawley 1981: 126). Often, the government had to increase tariffs to offset state budget deficits, which also pressured imports (Sato 2003: 10). With limited revenue base, the government could not afford to support industrialization process as deficits worsened. Most of economic policies in this period were heavily 'nationalistic'[55] in that they tried to improve the entrepreneurship of the Indonesian indigenous people. This was achieved by granting selective import licenses. But due to limited capital[56] and business skills, these indigenous businessmen instead sold their licenses to the Chinese for a profit instead. This could be the starting point for the emerging 'socially unproductive rent-seekers'. (Thee 1996: 317)

In 1958, the government also officially nationalized all the Dutch assets. This could be seen as the beginning of the development of State Owned Enterprises (SOE).

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[55] For example in 1951-56 the government introduced the 'Benteng' programme. Even the government only predicted that the maximum successful rate of this programme was only 30%. (Thee 1996: 317). Under this policy the number of pribumi importers jumped from 145 to 800 in 1953 and further to 3,500 at the end of 1954. (Sato 2003: 6)

[56] To support the indigenous Indonesian entrepreneurs, the government actually had established new credit institutions land banks like Bank Industri Negara and Bank Negara Indonesia 1946. (Thee 1996: 318).

There were 489 enterprises turned into SOEs in total, comprising 216 plantations, 161 mining and manufacturing, 40 trading and 16 insurance companies. One of the SOE's control of imported consumer goods represented 70% of total import at that time. In 1960 the number of SOEs had reached 986 (Sato 2003: 8-9). However, later on, most of these SOEs seemed to perform more as liabilities rather than assets.

Looking at the economic indicators at this period (1953-65), manufacturing growth record was not too dismal, with more than 8% share of GDP and around 2% rate of growth p.a., (for details refer to Table 3-1). Booth (1996) provided different annual average growth rate for mining and manufacturing during 1953-57 that differs markedly in her previous calculation; where mining and quarrying grew at 25.6% and manufacturing grew at 13.9% p.a (Table 3-2). One possibility was that the period 1958-59 has such a low economic growth such that it affected the growth calculation.

Table 3-1Gross Domestic Product by Sector of Origin (Constant Prices) in percentage

Sector of Production	Share			Growth	
	1953[a]	1960	1965	1953-59	1960-65
Agriculture	56.9	53.9	52.4	3.0	1.4
(Foodcrops)	na	34.3	33.1	na	4.2
(Other)		19.6	19.3	na	1.8
Mining	2.3	3.7	3.7	5.3	2.1
Manufacturing	8.5	8.4	8.3	1.9[d]	2.1[d]
Electricity, gas, water	b	0.3	0.4	na	na
Construction	1.6	2	1.7		-1.3
Transport	3.8	3.7	3.5		0.8
Trade	13[c]	14.3	15.7		3.8
Other services	13.9	13.7	14.3		2.8
Total	100	100	100	3.2	2.0
GDP (Rp billion, current prices)	84	390	23710		

a\ 1953 data are for Net Domestic Product at factor cost.
b\ included in manufacturing.
c\ Includes banking, insurance, and real estate.
d\Includes electricity, water and gas.
Source: 1953-9: UN, Yearbook of National Accounts Statistics 1960, New York, 1961. !960-77: various issues of the BIES. As quoted in Booth and McCawley (1981).

Table 3-2 Sectoral growth rates, 1953-57

Sector	Annual average growth rate	Percentage breakdown of sectoral contribution to total growth
Agriculture	2.8	34
Mining and Quarrying	25.6	13
Manufacturing	13.9	27
Other	4.2	26
GDP (factor cost)	5.0	100
GNP (market prices)	5.6	
GDP (Van der Eng)	2.3	

Note: GNP (market prices) refers to 1950/55.
Source: GDP data: United Nations, 1960: 114; GNP data: World Bank, 1976: 122; Van der Eng, 1992: 369. As quoted in Booth (1996).

3.1.2 Role of Natural Resources

Most Indonesians during early independence, and probably up to the oil boom period, would feel indifferent with any development plans because they felt that Indonesia was rich with natural resources[57]. As the lyrics of a song by Koes Ploes in the 1970s describes:

> *Bukan lautan, hanya kolam susu/Kail dan jala cukup menghidupimu/Tiada badai tiada topan kau temui/Ikan dan udang menghampiri dirimu/Orang bilang tanah kita tanah surga/Tongkat kayu dan batu jadi tanaman.*
>
> Translation in English: It is not sea, it is only a milk pond / No hurricane and typhoon will you encounter / Fish and shrimp come willingly to you / People say our land is the land of heaven / Wooden stick and stone could turn into plant

Higgins (1957: 53) corrects this view by saying that the interpretation should be that "Indonesia has a wide variety of resources". Higgins then added that it was unclear whether the quality, quantity, and location of those natural resources could stand to meet the needs of more than 80 million people at that time.

Different with most of the neoclassical economists, M. Hatta, Indonesia's first vice-president in 1945 and probably the first formally trained Indonesian economists stated natural resources as one of the main ingredients for development, as he said in his speech in 1946 [58]:

> A country's economy would depend generally on three pillars. The first is the richness of its soil, second: its position relative to other countries in the international community. Third: the nature and skills of its people as well as its aspirations (Hatta 1946).

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[57] Even Joseph Stiglitz, a former World Bank economist, in 2004 also said that Indonesia was rich with natural resources. http://www2.gsb.columbia.edu/ipd/indonesia/IndonesiaAgarFokus.pdf

[58] "Ekonomi Indonesia di Masa Datang", Pidato Wakil Presiden RI tanggal 3 Februari 1946, in Sri-Edi Swasono, et al. (eds.), Mohammad Hatta: Demokrasi Kita, Bebas Aktif, Ekonomi Masa Depan (Jakarta: UI-Press, 1992), pp. 5-8.

During Soekarno's period, no new crops were actually developed to replace the traditional export commodities to support development, even forty years later after 1930. Oil exports did help, but due to a lack of foreign investment and capital invested, these oil exports did not improve much until the late 1960s (Mackie 1996: 340). Rubber was still the main commodity of export, contributing $377 million in 1960, followed by oil export of $221 milliom. For a detailed account of export commodities and values, refer to Table 3-3 and 3-4.

Table 3-3 Exports of Main Commodities, 1960. 1969/70-1971/2 (USD million)

	Value of Exports				Increase/Decrease from 1960			Percentage Change from Preceeding Year	
	1960 Actual	1969/70 Actual	1970/1 Estimate	1971/2 Forecast	1969/70	1970/1	1971/2	1970/1 %	1971/2 %
Rubber	377	325	258	266	(52)	(119)	(111)	(20.6)	3.1
Copra	29	22	32	34	(7)	3	5	45.5	6.3
Coffee	14	60	74	76	46	60	62	23.3	2.7
Tobacco	29	19	22	24	(10)	(7)	(5)	15.8	9.1
Palm oil, kernel	24	29	36	37	5	12	13	20.7	2.8
Pepper	11	10	7	10	(1)	(4)	(1)	(30.0)	42.9
Tin	54	56	66	68	2	12	14	17.9	3.0
Tea	28	6	15	15	(22)	(13)	(13)	150.0	
Timber	--	53	110	155	53	110	155	107.6	40.9
Other non-oil	54	79	100	115	25	46	61	26.6	15.0
Total non-oil	620	659	720	800	39	100	180	9.3	11.1
Oil gross	221	380	440	508	159	219	287	15.8	15.5
net		(87)	(122)	(145)					
Total (gross)	841	1,039	1,160	1,308	198	319	467	12.9	12.2
Total (inc. net oil)		(746)	(842)	(945)					

Source: 1960: Bank Indonesia, Monthly Bulletin; 1969/70-1971/2: Nota Keuangan, January 1971; in Survey of Recent Developments, BIES, Vol 7 no 1, March 1971.

Table 3-4 Foreign Trade of Indonesia (1960 - June1964) in USD million

	1960	1961	1962	1963	1964 (1st half)
Exports (total)	840	784	682	696	324
Exports (excl. petroleum)	619	524	471	427	226
Imports, c.i.f.	574	794	647	502	n.a.
Index of export volume (1958=100)	98	109	95	98	92

Source: International Financial Statistics, May 1965 in Survey of Recent Developments, BIES, No 1 June 1965 (Exports in 1964 were slightly lower than in 1963).

3.1.3 Assessment of growth

Looking back, the record of growth performance during Soekarno's period was not too encouraging. Booth and McCawley (1981: 2) note that (after periods of economic stagnation) by 1959 national income in Indonesia was only 20% higher than 1953[59], and that the most rapid and sustained period of growth happened in the decade of 1967-77. Mackie (1996: 336-8) views the year 1957-63 as the beginning of a slide towards worsening inflation and currency depreciation as Soekarno marched to his 'Guided Economy' and 'Socialism a la Indonesia' concepts in 1959[60].

During Soekarno's period, agriculture was still the dominant sector in the economy, followed by trade[61] and manufacturing. But the growth rate p.a. for manufacturing started to rise in 1960-65 and later on surpassed the trade sector in 1965-71 (see Table 1.1. in Booth 1981: 4). Booth (1996) concludes that the Indonesian economy during 1940-1965 to be retrogressed structurally based on the rising-share of

[59] Nevertheless, Mackie (1996: 336) noted that the years 1950-57 Indonesia achieved a quite impressive recovery and economic growth despite the inflationary pressures.
[60] In 1956/57 there was also an attempt to implement Indonesia's first five year development plan. (Mackie 1996: 336).
[61] The high share of trade in the economy should be interpreted carefully. Booth (1996: 419) argues that by 1960s many of the components in trade sector were actually performing the function of 'last resort employers'.

labor-intensive production. Many of the increases in Indonesia's output production during this period came from the labor-intensive sector (reaching as high as 76%), with a net reduction of capital facilities in the capital intensive sector, outside the petroleum industry (Paauw 1960 cited in Booth 1996).

In the end Soekarno failed to bring the Indonesian economy on track. Incoherent economic policies and political upheavals, triggered also by the drop in export commodity prices[62] had caused the economy to collapse in the early 1960s; the industrial plan had stagnated, the government budget deficit soared[63], and inflation reached almost 600% in 1965 (Temple 2001). From mid-1952 to mid-1954, Higgins (1957: xii) notes that '..Indonesia lost foreign exchange reserves at a faster rate than any other country in the world". During the 1950s, Indonesia was also very dependent on only a few natural resources export commodities such that the fluctuations of these commodities adversely affected the national economy. This economic mismanagement had cost the Soekarno government dearly, leading to declining political support to the government. Soon after, the Soekarno's administration was replaced by Soeharto.[64]

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[62] The price of rubber, Indonesia's largest export at that time, dropped in each successive year until 1954, after reached its peak in 1951. At the same time, the price of other raw material also decline, upsetting the Sumitro Plan for industrialization (Fisher 1967: 173). Minister of Trade and Industry Sumitro Djojohadikusomo (in Muhammad Natsir Cabinet of Masyumi Party, 1950-51) presented in 1951 the Emergency Economic Plan (Rentjana Urgensi Perekonomian), followed by an Interim Report of the Committee on Industrialization (Laporan Interim Panitia Industrialisasi). A liberalist view of development actually projected from both documents, were state capital was regarded only as the temporary complement to private capital. (Sato 2003: 7).

[63] The Indonesian budget was in deficit since 1952. The deficit was Rp 2.0 billion in 1953, 3.6 billion in 1954, 2.8 billion in 1956, and Rp 1.6- 6.0 billion in 1957. (Higgins 1957: xiv-xv). In 1951, helped by the Korean War, the surplus in budget was evident.

[64] The reason for the fall of Soekarno in 1965 was a complex and debatable issue. Official sources would pointed out that the fall was more related to the revolt by the communist party (PKI/G30S). However, should the Soekarno's administration have been able to manage the economy better, he could have survived the revolt.

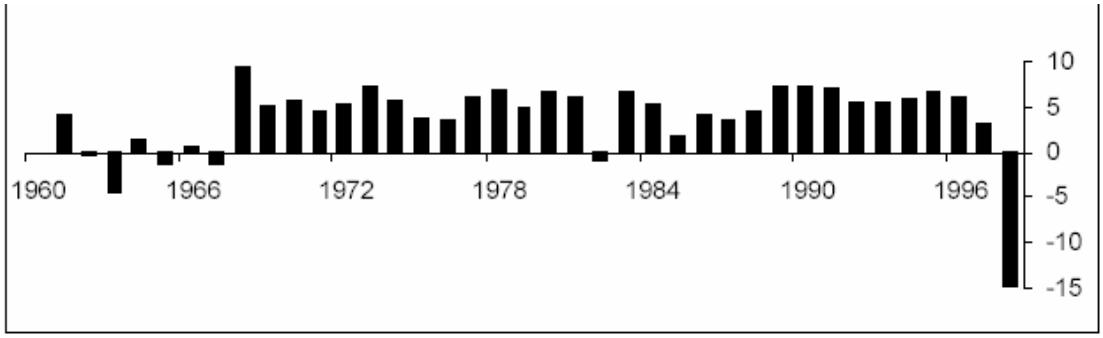
3.2 Soeharto's period 1965-1998

Soeharto's regime, also known as the 'New Order', was in power from 1965-1998 and is to be considered an authoritarian regime. Sato (2003) writes that Soeharto "…drastically shifted Indonesia's economic system from 'Indonesian Socialism' to capitalism". During his leadership, Soeharto was able to maneuver both the army and the parliament to be always in coherence with his decisions and policies. Having taken power from Soekarno in times of crisis and instability in 1965, Soeharto promised two main goals for the Indonesian society: stability and development[65] (often also quoted as economic growth). In order to provide legitimacy and justification of his authoritarian style Soeharto reconstructed the path of capitalist development by inviting foreign investment to resolve the 1966 economic crisis in the form of the Inter-Governmental Group on Indonesia (IGGI). The new regime also abandoned its nationalist policies in politics and economics and encouraged foreign investment through the foreign capital investment law enacted on January 1, 1967.

After Soeharto took over, the GDP per capita in Indonesia had indeed grown substantially. After a negative growth in 1967, GDP per capita in Indonesia grew significantly, with only two years of negative growth, in 1982 and in the end of Soeharto's leadership in 1998. Investments had also grown continuously, fueled by the oil boom revenue and massive FDI.

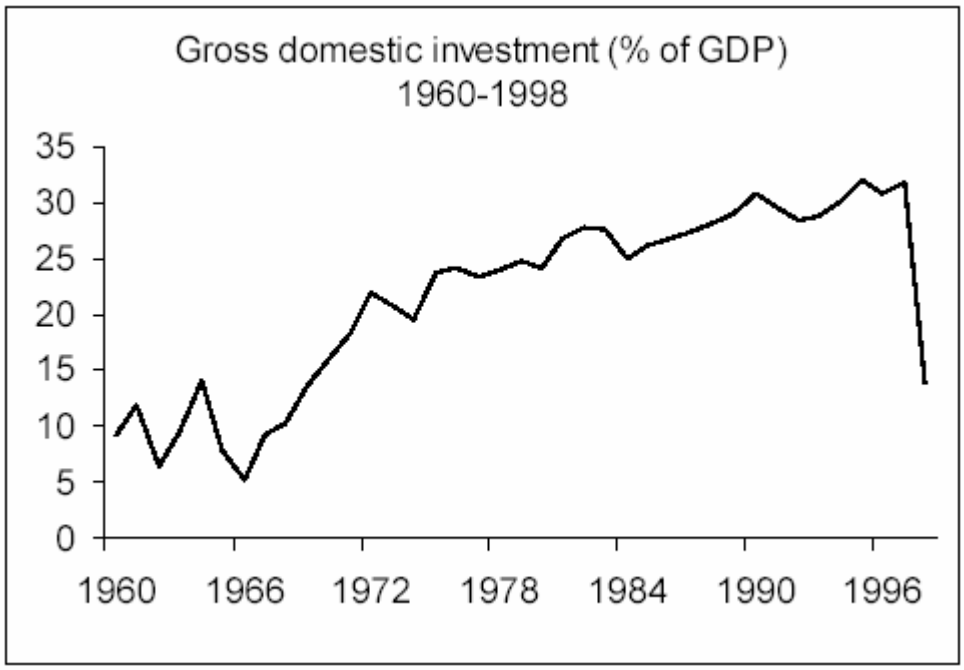
[65] Abbot (2001) regard Soeharto as following 'developmental legitimacy' as Soeharto consequently reversing Soekarno's 'politics as commander' dogma, with putting economic development first before political development.

Figure 3-1 Growth in GDP per capita, Indonesia, 1961-1998



Source: World Development Indicators (2000) cited in Temple (2001).

Figure 3-2 Gross domestic investment (% of GDP) 1960-1998



Source: World Development Indicators (2000) cited in Temple (2001).

Manufacturing was expected to become the engine of growth in Indonesia. The benefits of developing a strong manufacturing sector have been put forward by many economists (Syrquin and Chenery 1975, Lewis 1954). The growing of the manufacturing sector is to be viewed as beneficial for a country through various channels. Firstly, manufacturing is viewed to be more productive compared with the

traditional rural sector. Secondly, manufacturing creates the incentive for learning-by-doing – by creating strong demands on skills and so accelerates human capital accumulation (Wood and Berge 1997 cited in Auty and Kiiski 2001: 20).

Officially, agriculture had always been the first `priority of the Soeharto administration as it was stated in the Repelita, the official planning document (Hill 2000, Prawiro 1998). In Repelita, which started in 1968, agriculture had always been put forward as the main engine of development, as a base for the national economy. This was, at that time, not common for development policies in the Less Developed Countries (LDCs), which would usually put emphasis on industrialization (Prawiro 1998: 189).

The agricultural policy[66] during Soeharto always emphasized the achievement of one goal: 'rice self-sufficiency' (*'swasembada beras'*). Rice[67] is an important staple food for most Indonesians, except in Irian Jaya and Maluku province where sago palm flour, sweet potatoes and cassava are prefered[68]. Institutions, such as BULOG-*Badan Urusan Logistik* (National Food Logistics Agency) and KUD-*Koperasi Unit Desa* (Rural Cooperatives) were invented to assist the agriculture in terms of price stability and finance, respectively. The view that agriculture was always being 'left-behind' or 'marginalized' in Indonesia development process[69] seems to come from the fact that despite the drop in the share of agriculture in national income, a majority of Indonesian

[66] Some of the key objectives of agricultural policy in Indonesia are low and stable food prices, rural development, employment generation, poverty alleviation, and generating foreign exchange earnings (Kustiari, Erwidodo and Bahri 1997).
[67] Rice consumption at in Indonesia is at 115 kg/capita/year, the highest among Asia countries (China 80 kg, Korea 70 kg, Japan 60 kg) www.lead.org. A focus on rice has often been associated with the concept of 'food security', which according to Timmer (2004) has supported the Indonesian economic growth.
[68] http://www.sallys-place.com/food/ethnic_cusine/indonesia.htm
[69] For example see Arifin (2004) and Alimi (2004).

households still relies on this sector, such that their welfare would be lagging behind their counterparts in the industrial sector.

3.2.1 Narratives in Indonesian Economy during Soeharto.

Hill (2000: 15-16) divides the Indonesian economy from 1966-1990s into several episodes as will be described in the following sections.

3.2.1.1 Rehabilitation and recovery (1966-1970).

The main economic policy objective in this period was to stabilize the economy by controlling inflation. The government successfully achieved this by applying orthodox monetary and fiscal policies. In the early phase of development planning, Soeharto set up the 'balanced-budget' principle for the government budget (APBN). In fact, the term 'balance', could be misleading. That is because the government put 'foreign aid' as part of its 'revenues' (Prawiro 2004, Hill 2000). Nevertheless, it did prevent the government from borrowing domestically as it had done excessively in the Soekarno era.

Budget is one of the most important prerequisites and documents in development planning. While revenue is important and maybe the final determinant of policy preferences and outputs, Dick (2003) writes that:

> Revenue is the sine qua non of the (nation-) state. Without revenue, the state cannot maintain armed forces to defend its borders, provide internal security, sustain a bureaucracy, invest in essential infrastructure or offer the minimum level of services to retain popular compliance.

The attempt to deregulate investment in 1967 had successfully increased investment activities in Indonesia. The law deregulating FDI was enacted with the Law

No. 1/1967 to encourage FDI to Indonesia by foreign investors. The law, however, still protected the oil and gas, banking, insurance and leasing industries. [70] The law was the first regulation about FDI since Indonesia's independence in 1945. At the beginning of the FDI law, many of the FDI were flowing in the synthetic fibers and other spinning-sectors (Ishida 2003). During the1960s and 1970s, the majority of FDI in Indonesia was concentrated in the petroleum sector (oil and natural gas) (Rajenthran 2002).

The year 1966 also marked the building of Indonesia's financial system, as Hamada (2003: 2) notes:

> The year 1966 saw the emergence of commercial banks in Indonesia. It can be said that before 1966 a financial system hardly existed, a fact commonly attributed to economic disruptions like the consecutive runs of fiscal deficit and hyperinflation under the Soekarno Administration. After 1996, with the inauguration of Soeharto, a regulatory system of financial legislation, e.g. central banking law and banking regulation, was introduced and implemented, and the banking sector that is the basis of the current financial system in Indonesia was built up."

In this period, agriculture remained the dominant sector of the economy, followed by manufacturing and mining. Even then, the domestic investment figures, showed a very high activity in industry, with 48 industrial investments underway reaching a value of Rp 13 billion, which was the largest investment activity in 1968-1970.

3.2.1.2 Rapid Growth (1971-1981).

In this period the economic growth (real GDP) had consistently reached a minimum of 5% growth p.a., with a 7.7% growth average (Hill 2000).[71] The oil price

[70] http://esf.niwi.knaw.nl/esf1997/projects/indonesia/investment/lain/ikht.html
[71] It is important to note, however, that manufacturing employment in urban areas of Indonesia actually declined from 684,000 in 1961 to 662,000 in 1971 (Sundrum 1975: 58).

shock had increased the revenue in the central government budget[72] (Booth 2005). As the government was applying the balanced budget principle, an increase in revenue must be followed by an increase in spending; this could have supported the growth. The role of foreign aid also added further support to the booming growth in this period.[73] This period also marks a structural change where industry has begun to outpace agriculture as the dominant sector in the economy. But still, government contributes the majority of capital formation activities in the oil boom period (Sigit 2004).

The increase in oil price however also created inflationary pressures[74] in the domestic economy, creating a negative effect on the agricultural sector, a phenomenon known also as 'Dutch disease'[75]. As Timmer (1994) notes:

> Because of the large increases in oil prices in the 1970s, Indonesia's rural economy was severely buffeted by declining terms of trade. Price policy for rice, the fertilizer subsidy, and a more rural-oriented macro policy after 1978[76] helped overcome the pressures exerted by these exogenous changes on Indonesia's macro economy.

As such, the increase in oil revenue, the Dutch-disease, and a couple of 'rent-seekers' had provided incentives and capabilities for the government to pursue an

[72] The share of oil and natural gas in Indonesia's export tumbled down soared reaching the peak of 82% in 1981, while the share of oil and natural gas in the state revenue reach the peak of 71% in 1981 (Sato 2003: 20).
[73] Van der Meulen Rodgers (1994: 4) noted that: "Led by primary export recovery and high foreign aid from 1970 to 1972, the first oil boom from 1973 to 1978, and the second oil boom from 1979 to 1981, Indonesia experienced strong macroeconomic and export performances in the Primary Boom Period."
[74] Despite the high rates of inflation since 1973, the foreign exchange rate was held constant until late in 1978 (Booth 1981: 67).
[75] This squeeze in the non-oil traded sector or "Dutch disease" is sometimes referred to as 'deindustrialisation'. (Basri 2002)
[76] One of the policy was the devaluation in November 1978. After the devaluation tradable goods (particularly agriculture) production recovered and poverty rates fell (Timmer 2004: 17).

import-substitution industrialization[77] supported by the state-owned enterprises[78]. Pangestu (1997) notes that[79]:

> The industrial structure was dominated by large state-owned enterprises in strategic industries, such as cement, fertilizers, and steel, which were funded by oil revenues, and foreign and domestic companies engaging in import-substitution activities in various manufactured products, such as textiles, garments, consumer electronics, chemicals, and automobiles.

As an assessment, Indonesia has been quite successful in managing the revenues from the oil boom to prevent damaging inflationary shocks. During the 1979-81 oil boom more than 40% of the windfall profit was saved abroad (Auty 2004) and invested in infrastructure and agricultural services that later on spurred a productivity revolution in the rice sector such that Indonesia was able to achieve national self-sufficiency in rice production by the mid-1980s (Nathan Associates Inc. 2001). These oil boom revenues were also used to finance investments in infrastructure and to supplement or replace foreign and domestic private investments in manufacturing (Fane 2004). However, some inefficiency did occur, as Lankester (2004) writes:

> Many billions of oil revenue dollars were wasted on loss-making projects in the public, industrial sector. Yet the Government – unlike many developing country oil producers – also spent large amounts on productive development. There was massive spending on new primary schools and health clinics and on rural infrastructure.

In the early 1970s, traditional light consumer goods (processed food, beverages, tobacco and weaving) that were resistant to economic slumps dominated the manufacturing sector (Bresnan 1993). The year 1974 marked the critical path where Indonesia had turned from a quasi-liberal economy to a more statist-nationalist

[77] The oil revenue also created a 'dual' industrialization. Most SOEs preferred a capital-intensive resource-based industry (RBI) rather than job-intensive light industry. (Auty 2004)
[78] The Soeharto government inherited more than 900 state enterprises spawned during the Soekarno era. (Sato 2003: 13)
[79] http://www.idrc.ca/en/ev-68161-201-1-DO_TOPIC.html

economy (Lankaster 2004). As a result, since 1975, industrial growth in some parts of the modern sector appears to have slowed (Booth 1981: 67). The SOEs experienced a fast development between 1979-1985, with their total assets growing at 25% p.a., and their sales were 20-30% of GDP (Soesastro, et.al. 1988 cited in Bresnan 1993). This inward-oriented industrialization strategy[80] was able to provide a relatively sustained economic growth during the 1971- 1981 period[81]. As such the growth in the oil-boom period had originated mainly from the aggregate demand side (from investment demand, consumption demand) and a high import-substitution effect (Jacob 2004).

The abundance of oil revenues also prevented the attempted consolidation on State Owned Enterprises (SOEs). State enterprises had an important role to play in the manufacturing sector. According to 1974-75 census, about 20% of employees in the large and medium sectors worked in state enterprises, creating around 25% of value added in the respective sectors (McCawley 1981: 74). Lewis (1994: 5) argues that "the rapid industrial growth achieved during the boom period occurred in SOE-dominated activities such as oil refining, petrochemicals, fertilizer, steel, and the like". [82]

This period also highlighted the importance of oil in the Indonesian economy. Aside from being the dominant export commodity, oil also acted as 'collateral' for Indonesia to attract FDI, foreign grants and loans (Bresnan 1993: 283).

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[80] Fane (1996) noted that in "the late 1970s and early 1980s, Indonesia's economic policy became increasingly inward looking as the government pursued a strategy of import substitution".

[81] Ishida (2003: 4) argued that "import substitution initially becomes necessary for a modern manufacturing industry to grow out of conventional sectors including agriculture and simple, primary processed products… Industrialization of the modern sector begins with import substitution, which calls for construction of domestic factories for manufacturing products that previously had to be imported."

[82] The emphasis was on achieving production targets and creating capacity in "upstream" input-supplying industries, rather than on fostering efficient, competitive firms. Concern over profitability was virtually non-existent, and SOE managers were instead burdened with numerous "non-economic" objectives of the government: regional development, price stabilization, control of "strategic" industries, encouraging pribumi (native or indigenous) entrepreneurship, and others (Lewis 1994: 5-6).

This period also marked the beginning of industrialization process in Indonesia. In 1973-78, as noted by Van der Meulen Rodgers (1994), the share of industrial sector in GDP had overtaken agriculture as the main sector in the economy (refer to table 3-5). However, the industrial sector in this data also included mining, which includes the oil industry.

Table 3-5 Indonesian Real GDP Composition and Growth, 1970-1990

Panel A: Structure of Production (Average Shares of GDP)					
	1970-72	1973-78	1979-81	1982-85	1986-90
Agriculture	42.0%	31.1%	24.9%	23.2%	23.4%
/GDP					
Industry	21.6%	33.0%	40.2%	38.2%	36.8%
/GDP					
Services	36.4%	35.8%	34.9%	38.6%	39.8%
/GDP					
(Manufacturing	10.1%	10.4%	12.2%	13.8%	18.0%
/GDP)					
Panel C: Structure of Demand (Average Shares of GDP)					
	1970-72	1973-78	1979-81	1982-85	1986-90
Private	77.4%	67.0%	59.0%	60.1%	56.7%
Consumption					
Gross Domestic	16.1%	19.4%	23.9%	27.7%	32.6%
Investment					
Government	9.0%	10.2%	11.0%	10.8%	9.5%
Consumption					
Net Exports	-2.5%	3.4%	6.1%	1.4%	1.2%

Notes: Industry includes mining, manufacturing, construction, and utilities. Services include trade, transport, communication, financial services, and other community services.
Sources: The World Bank, World Tables, International Monetary Fund, International Financial Statistica, cited in Van der Meulen Rodgers (1994).

Imports have been inseparable from industrialization. Most of raw materials and capital goods were still imported (for details refer to Table 3-6). Ishida (2003: 4) writes "…construction of modern-sector factories requires imports of machinery and other capital goods, and imports of capital goods require foreign currencies, and further,

earning foreign currencies requires exports". This would explain oil's central role in Indonesia's industrialization.

Table 3-6 Composition of Growth of Imports

Period	Consumer Goods	Raw Materials	Capital Goods	Total
Average Percentage Share				
Old Definition				
1967-81	20.7	39.7	39.6	100.0
1967-74	25.5	38.2	36.3	100.0
1975-81	15.3	41.4	43.3	100.0
New Definition				
1975-81	14.2	68.1	17.7	100.0
Annual Rate of Growth [a]				
Old Definition				
1967-81	10.1	19.3	21.4	17.9
1967-74	9.8	22.8	31.3	22.0
1975-81	10.1	18.0	13.7	15.0
New Definition				
1975-81	4.5	19.0	6.5	15.0

Note: USD values converted into rupiah at the prevailing exchange rate, and deflated by the import price index from the National Income Accounts.
Source: Sundrum (1986).

3.2.1.3 Deregulation phase (1982-1991)

Hill (2000) divides the year 1982-1991 into two periods, one of adjustment[83] (1982-1985) and one of swift liberalization[84] (1986-1991). Starting in 1982, we could consider that there was a change in the type of industrialization pursued, with government policies favoring an export-oriented strategy. The main push for deregulation was the drop in oil prices starting in 1982, and with them declining

[83] Nasution (1991: 4) has noted that "during 1982-85 the government mainly used discretionary measures such as non-tariff barriers (NTBs) to repress domestic expenditures in order to improve the current account. As expected, these policies caused severe distortions in prices and incentives with significant losses in growth not necessarily accompanied by benefits in terms of equity."
[84] According to Nasution (1991: 4): "the government changed its strategy in October 1986 and introduced a comprehensive internal adjustment program, covering both the supply and demand sides of

sharply in 1985-86. This decline in the oil prices had reduced the government budget and thus the ability of the government to pursue its inward-looking industrialization policy. Van der Meulen Rodgers (1994: 6) wrote:

> In response to lower oil revenues, the government cut expenditures on large capital intensive projects, so that between 1982 and 1986 the ratio of actual to planned capital expenditures fell from 1.54 to 0.65.

The government attempted two large devaluations in 1983 and 1986, which made the terms of trade in favor of export commodities and showed the attempt of the government to deregulate the exchange-rate.[85] The devaluation in 1986 resulted in a doubling of the Non-Oil Export/GDP ratio, from 6 to 12 percent (Van der Meulen Rodgers 1994). The increase in non-oil export was also due to the deregulation attempt by the government in the trade and investment regulations.

Rachbini (2003: 65) notes that:

> Before 1983, the industry was developed merely for domestic need in line with development strategy at that time. Fertilizer, iron, shipping industries and others were constructed based on government initiatives without considering their competitiveness (government driven). The need to develop industry was judged only by opinion of the minister, president, and other policy makers. There was no consideration from aspect of the market.

Again, oil seems to be the 'culprit' for Indonesia's drastic change of industrialization strategies. Declining oil prices that led to a worsening current account[86] and budget deficit forced the government to find other sources of foreign exchange through non-oil export revenues, which would be more competitive after the

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the economy."

[85] The US dollar price of crude oil dropped to only half in period between 1985/86 and 1986/87, causing a decline in Indonesia's overall terms of trade that was equivalent to a loss of 10 percent in GNP (Fane 1994).

[86] Oil (crude petroleum and gas) was the major source of export revenue before the 1980s, reaching up to

devaluations. This could be seen as an attempt to secure industrialization, since most of the capital goods needed for industry and manufacturing still had to be imported.

Due to declining oil revenues, many SOEs and mega-projects were reduced and postponed. Sato (2003: 20-21) writes:

> Of the 52 mega projects in the heavy industry that Minister of Industry Soehoed had planned, 48 totaling US$ 21 billion in investment value had to be cancelled or postponed. The state enterprise sector became subjected to a review from the point of view of efficiency and possible privatization. The number of state enterprises began to decrease in 1985.

As the balance of payment problems faded away, due to deregulation efforts and devaluation, Nasution (2003: 11) noted that "financial institutions, the state-owned enterprises and private conglomerates began to borrow excessively offshore to invest in 'mega projects' which produce either non-traded or traded goods for the highly protected domestic market". I would argue that devaluation has provided additional incentives to invest in non-traded[87] domestic market. Increasing opportunities in mega-projects during the deregulation period substantially raised the demand for borrowing from state banks and international institutions. Barito timber group, a well-connected conglomerate, was investing in a pulp and paper plant, worth US$2 billion. It also invested in the Chandra Asri petrochemical plant at Merak, West Java, worth US$2.25 billion, to produce polyester for the highly protected domestic market; and a joint venture real estate 'super block' in Jakarta, worth US$1.3 billion.[88] It was calculated that in 1991, at the height of the debt blowout, mega projects potentially involved

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¾ of total export revenue (Saxena 2002: 546).

[87] Examples of non-traded sector was property and real estate, electricity and telecommunication, and other infrastructures. (Nasution 1991 cited Nasution 2003: 11). Nasution (1998) later considers the high rate of GDP growth during the 1990s was mostly associated with the 'bubble' industries, including construction, public utilities, services in non-traded sector of the economy.

[88] Asiaweek, 14 June 1991 in Nasution (1991).

US$70 million in foreign loans. With a debt service ratio of 31% and rapidly growing foreign borrowings and debt, the pressures on inflation and the currency were increased[89].

Those 'heavy-weight' investment activities brought its toll on the domestic supply by creating inflationary pressures. As the economy showed signs of 'overheating', the government tried to pull-back domestic economic activities by checking the domestic money supply, cutting the overseas loans for mega projects and imposing systems for prudential control in the banking sector. In the so called Sumarlin shocks (Tight Money Policy) of 1987[90] and 1991, the government drastically reduced the liquidity of state banks, and in 1991 Rp 8 trillion was withdrawn by state companies form 8 state banks, sending interest rates to levels above 30 percent, and slowing investment and economic activity as a result. The Sumarlin Shock of 1991 had removed Rp 10 trillion liquidity in aggregate from the system (Hill 2000: 298).

Using the non-oil GDP data, this period could also be seen as the starting point of industrialization in Indonesia, where the industrial sector had outpaced agriculture's share in the economy. Growth in 1987-1992 was rapid, reaching 6.7% p.a.; most importantly it was achieved in the absence of buoyant oil revenues (Hill 2000: 17). Hill (2000: 158) also notes that after 1985, "for the first time in the history of new order, exports and the private sector became the primary engines of industrial growth".

[89]Tempo 27 July 1991.

[90] This happened because capital flight had precipitated monetary crisis. The 1987 TMP resulted in interbank rates up to 45%. In June 1987 foreign investment regulations and the textile export quota were liberalized. (Hill 2000: 297).

Table 3-7 Structure and Growth in Indonesian Industry, 1975-88

SITC		Value added structure		Value added growth (%)	Employment growth (%)
		in 1975	in 1988		
31	Food, etc.	40	27	9.5	3.9
32	Textiles, etc.	13	12	15.3	6.4
33	Wood products	3	13	27.6	17.1
34	Paper products	3	5	28.1	7
35	Chemicals (excluding oil/LNG)	21	16	7.2	6.6
36	Non-metallic minerals	4	4	16.9	8.3
37	Basic metals	-	8	57.9	20.3
38	Metal goods	15	14	8.9	7.1
39	Other	-	-	19.2	20.3
	Total	100	100	13.2	6.7

Notes: '-' indicates less than 0.5%, value added structure figures derived from current price value added; (real) value added growth is obtained by deflating nominal growth by the relevant wholesale price index.
Source: Hill (1992), table 7.1 cited Lewis (1994).

The success of the Indonesian economy in this period, with its ability to grow and develop without the help of oil, was not a trivial or mediocre achievement. Rosser (1994) even considers Indonesia to be one of the countries that had been able to reverse the spell of oil curse. Indeed, despite its ability to generate revenues, oil has been considered a 'curse' rather than blessing.

Figure 3-3 Sectoral Shares in Indonesia's Non-oil GDP, 1900-99 (%)

Source: Calculated from output data in 1993 prices, Van der Eng (2001).

Indonesia had also undergone a very extensive financial deregulation in 1980s[91]. In October 1988, the government announced a deregulation in the banking-sector where one of its important provisions was the abolishing of restriction on the establishment of new private banks that has previously been prohibited since 1968[92]. Also existing banks were allowed to open new branches nationwide (Hamada 2003: 12). In December 1988, capital markets were deregulated, where the stock market was

[91] A deregulated finance sector offered tremendous new-opportunities in banking. The number of domestic private banks rose from 66 in 1988 to 166 in 1994. New joint banks with foreign banks also increased steadily after1989. Their number reached 40, which was 3.6 times the number of those in existence in 1989. (Hamada :13). Also between 1987 and 1996, private Indonesian banks' share of total credit more than doubled, from 23 percent to 49 percent, while the foreign banks' combined market share more than tripled, from 3 percent to 10 percent (Halim 2001: 19).

[92] The reforms also included a major reduction in the reserve requirements of commercial banks (from 15 percent to only 2 percent). Before that, in June 1983, the first banking reform has removed interest rate controls and credit ceilings for all banks, reduced the liquidity credit, and replaced the ineffective credit

privatized and foreigners were allowed to buy stocks on the Indonesian stock exchange. That was followed by a clarification in 1989 that foreign purchase of up to 49 percent of a company's shares was allowed, except in the case of bank shares[93] (Halim 2001: 18). These extensive reforms in the financial sector have enabled a freer mobilization of savings and investment domestically and from international sources as well, as the exchange rate was deregulated and an open capital account being operated.

3.2.1.4 Overheating economy (1992-1996)

If we look at Figure 3-4, the effect of financial liberalization is obvious in transforming the financial sector. The rate of money supply (M2)[94] growth has jumped from only less than 30% in 1983-1989 to more than 40% in 1990.

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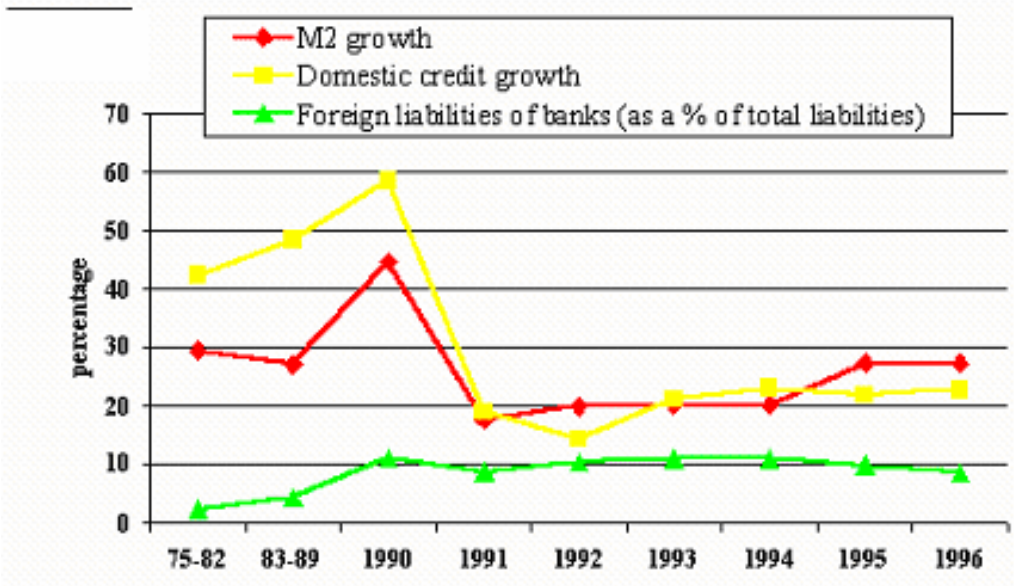
ceilings with monetary tools and Bank Indonesia certificates (Halim 2001: 18).

[93] After the deregulation of the stock exchange, "the total annual trading volume had skyrocketed from just 1.7 billion shares in 1992 to 29.6 billion in 1997, jumping more than 16 times. The number of listed companies rose 70 percent from 153 in 1992 to 288 in 1998, and market capitalisation grew from Rp 24.8 trillion to Rp 225.2 trillion over the same period" (Halim 2001: 18).

[94] Liabilities of the monetary system consisting of currency and demand deposits are known as "narrow money" (M1), while those including quasi money are called "broad money" or "domestic liquidity"(M2). Currency consists of legal bank notes and coins excluding cash in the Treasury and commercial banks. Demand deposit comprises current accounts, transfers, and mature time and savings deposits in rupiah, held by residents with the monetary system. Quasi money consists of time and savings deposits in rupiah and foreign currency held by residents with commercial banks.

Figure 3-4 M2 growth, Credit growth and Foreign Liablity of Banks



Source: International Monetary Fund (1998).

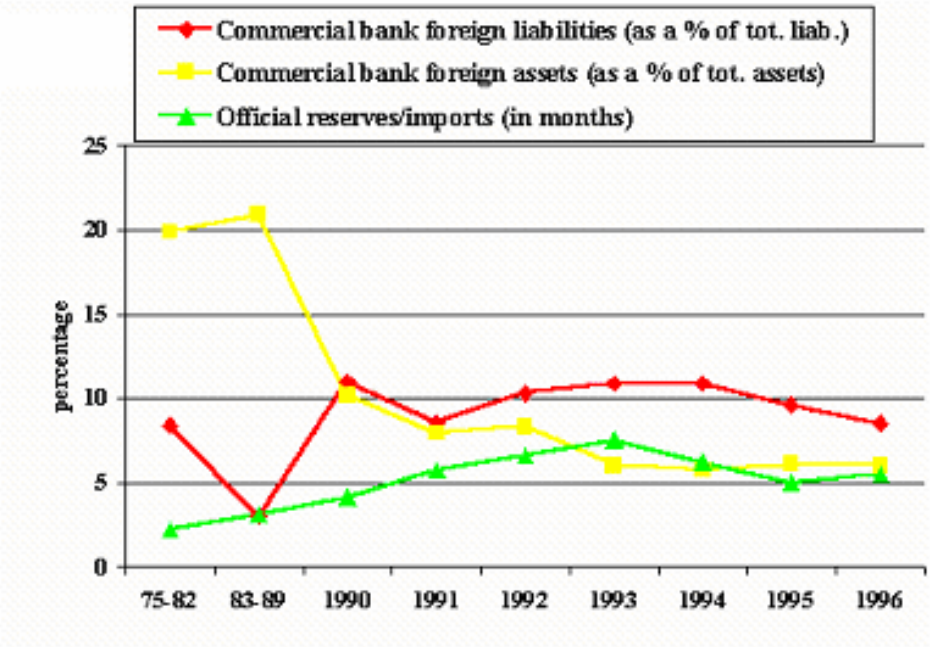
However, in 1991 the M2's growth rate dropped to around 20% and remained constant until 1994 and then rose again to almost 30% in 1995 and 1996. This was caused by the Tight Money Policy that was being adopted by the government by raising interest rate to halt the expansion of credits due to 'over-heating' of the economy after the start of banking deregulation.[95]

We also notice that the share of foreign liabilities of banks (as a percentage of total liabilities) also increased due to financial deregulations moving from only 3% in 1983-89 to 11% in 1990. However, despite the Tight Money Policy, this share stood constantly at around 10%, reflecting a shift of financing sources in tapping more foreign capital. If we examine Figure 3-5, we would see that there was a reversed trend starting in 1990 concerning the commercial banks' foreign assets and liabilities. Before

[95] Generally, in a over-heating economy inflation is relatively high, the real exchange rate is appreciated, the current account deficit has widened, domestic credit has been growing at a rapid pace, and asset

1990, the share of foreign assets is higher than the share of foreign liabilities. The reverse trend happened since 1990, when the shares of commercial banks' foreign liabilities were higher than its foreign assets and the gap between the two also seemed to widened.

Figure 3-5 Bank's Liabilities and Assets



Source: International Monetary Fund (1998).

Thus, it seems that there was a tendency to use more foreign debts since the Tight Money Policy was implemented by the government. This could provide significant pressure toward the exchange rate in the subsequent years to follow if the foreign debt was not managed carefully.

Indeed, Indonesia seems to be having problem with its debt management. Indonesia's private debt increased to $55.5 billion in 1996 from $44.5 billion in 1995. The bulk of the debt was in the form of short-term debt reaching an amount of 62%;

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prices have often been inflated (IMF 1998).

this percentage actually remained constant since 1992. This condition shows the vulnerability of Indonesian private sector.

The flourishing of the banking sector in the previous periods, however, was weakened by the low quality of investment flowing from the credit of banks. Most of banks and mega-projects in Indonesia were still shadowed by significant leakage and inefficiencies due to the 'rent-seekers' and predatory bureaucrats. To some degree it is logical that large conglomerates and politico-business families have been best placed to take advantage of deregulation because of the capital resources and organizational structures they had accumulated within the incubator of state tutelage.

The inadequate supervision and regulatory measures performed by Bank Indonesia (the Central Bank) also seemed to be lagging behind. In other words, deregulation was compromised by lack of effective regulation. The big companies such as Golden Key, Kanindo, Bentoel and Mantrusts, all soon to collapse, were high on the lists of outstanding debt.[96]

The exercise in financial discipline dramatically raised interest rates and restricted access to credit at a time when the big conglomerates and politico-business families carried heavy debt exposure, often in the form of short-term loans, exacerbated in some cases by the strengthening of the yen. The state banks, however, continued to provide access to funds for selected borrowers, often at concessionary rates.

The banking sector also faced some problem in its credit expansion. It was overly concentrated in the property sector. If in 1993 the total credit to property was only Rp 22 trillion with a share of 13.5%, then in the end of 1994 the number has jumped to more than 50% reaching Rp 33.5 trillion with a share of 17%. In September

1996 the property sector's credit expansion reached 26%, whereas the national credit only grew at 16%. All of this would lead to bad debts because the collateral from the property sector was basically not liquid.

The increased expansion of credit towards the property sector could also be seen in the booming of the property sector. The Housing Price Indices showed an increasing trend since 1992, where it increased almost 20% in 1993. However, the housing index seemed to stagnate in 1996 with only an 8% increase, just the same as the rate of inflation.

Figure 3-6 The Housing Price Indices, 1991-1996

End of period	1991	1992	1993	1994	1995	1996
Housing Index	133.74	139.95	163.16	178.57	188.93	198

Source: Bank Indonesia (BI) statistics at www.bi.go.id.

The above pressures had significantly weakened the banking sector in terms of liquidity. Also, as mentioned before, the higher share of commercial banks' foreign liabilities compared to its foreign assets increased the exposure of the domestic banking system towards the global macroeconomic condition.

Another important factor in Indonesia was the loose regulation and control by the central bank, especially remembering the fact that Indonesia had just began its financial deregulation after a long period of financial repression. The banks themselves might be less prudent in evaluating and monitoring the credit that has been disbursed, especially when the credit was given to their own group of companies. [97] As such, a

[96]Kompas 24 June 1993.
[97] All of these could be labeled the moral hazard problems.

triggering (or contagious[98]) factor of macroeconomic shock[99], such as the depreciation of the Thai Bath in 1997 could and did bring devastating impact to the Indonesian economy which had already been in a condition of weak domestic macroeconomic fundamentals[100] or vulnerability[101]. In addition, herd behavior of foreign investors probably made the problem worse by increasing capital inflows and outflows to and from Indonesia (Nasution 1998).

In Indonesia many conglomerates had close links with President Soeharto. Kasekende and Bhundia (1998) argue that this could give the impression that the debts were publicly guaranteed because the political establishment would not allow them to fail. This connected lending and politically motivated lending would then further worsen the quality of asset portfolios. Financial institutions themselves might have consciously committed fraud or might disguise the extent of their financial and liquidity problems to the central bank, taking advantage of the asymmetrycal of information flow which commonly happens in any financial institution environment. In the end, when the problems could not be further hidden, it was much too late for the authority to do anything to remedy the situation.

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[98] Iriana and Sjoholm (2002: 138) suggested that there is an obvious geographical context in the Asian crisis, which might suggest that contagion did indeed take place. This is also related with Investor's behaviour in viewing 'Southeast Asia' as a single entity. A financial crisis in one country may lead investors to reassess other countries' economic fundamentals and where information asymmetries existed it may then induce investors to withdraw their investments to avoid further losses, and thereby result in contagion.

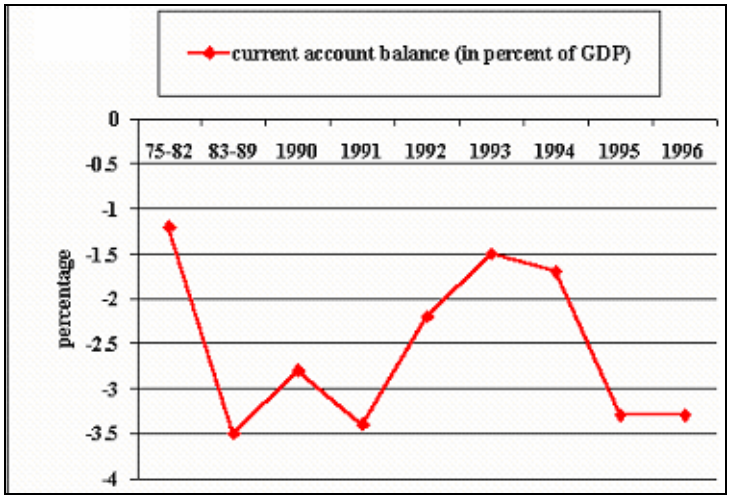
[99] Azis and Thorbecke (2002) findings shows that macroeconomic shocks restricted the flow of bank credit in Indonesia during the crisis and that these effects were quantitatively important.

[100] The assessment of Indonesia's macroeconomic fundamentals of course was a controversy. Even in 1998, ADB (1998) still viewed Indonesia of having "sound macroeconomic fundamentals" and to have a "strong economic performance before the crisis". However, Nasution (1998) argue that "the low rate of inflation, high growth of GDP and high rate of growth of non-oil exports, which are often quoted as the indicators of sound economic fundamentals, are largely artificial".

[101] For example "a high level of short-term debts increases the vulnerability to shifts in investors' willingness to facilitate capital as well as to changes in the exchange rates" (Iriana and Sjoholm 2002: 144).

For the current account balance, we see that since 1991, the trend seemed to be upward (Figure 3-7). However, the current account balance seemed to be worsening since 1993. Because of this, the official reserves seemed to be decreasing after 1993 (Figure 3-5).

Figure 3-7 Indonesia's Current Account Balance 1975-1996



Source: International Monetary Fund (1998).

The worsening of the current account balance was exacerbated by the decrease in the plywood's (one of the major export commodities) price index from 274 in 1993 to only 170 (a 100% decrease) in 1994 and worsened still to 146 in 1996 (Table 3-8). The decreasing rate of growth in world trade could have also contributed to the worsening current account deficit. In 1996, the growth of world trade in goods was almost half of that in 1995.

Table 3-8 Price indices of plywood, 1993-1996

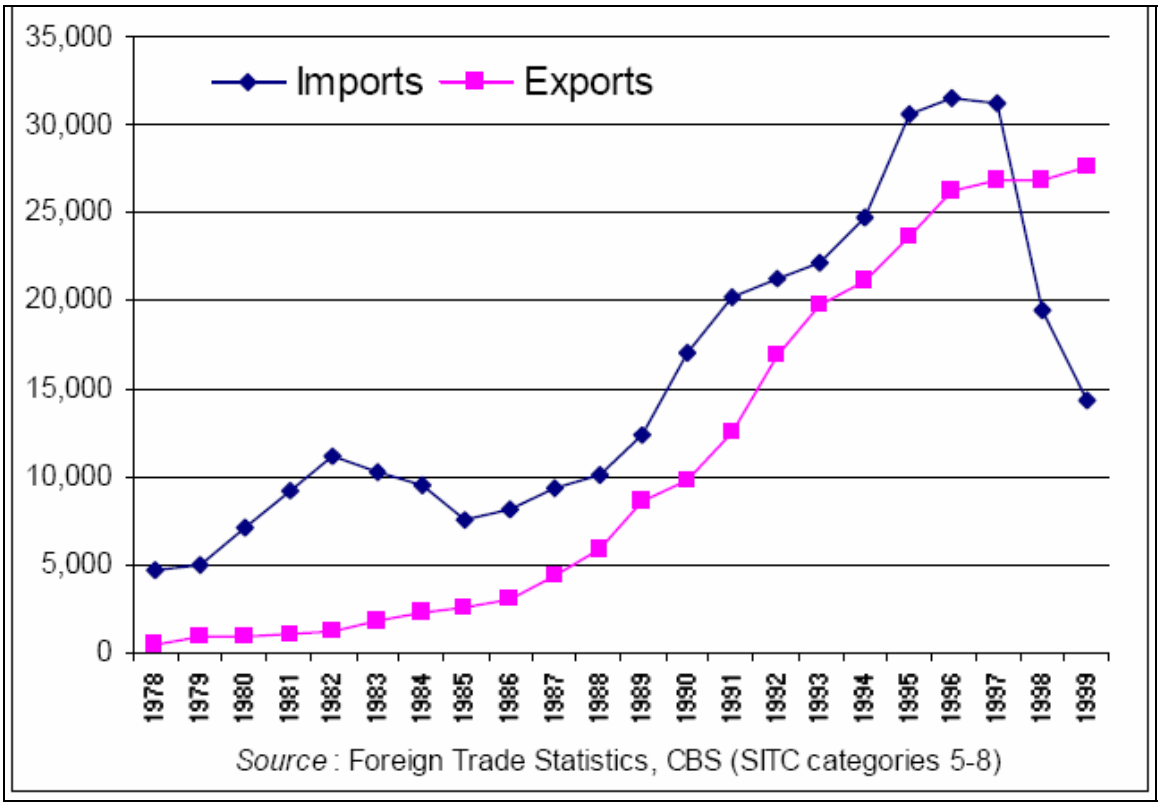
	1993	**1994**	**1995**	**1996**
Price index of plywood	273.9	169.5	160	146

Source: Bank Indonesia (BI) statistics at www.bi.go.id.

If we examine further the value of export and import since Repelita I, it would show that the trade balance of Indonesia would always be positive (surplus). Disaggregated further the value of export and imports according to oil/non-oil, then for non-oil trade balance, Indonesia would suffer a deficit (except for 1993 and 1994). Further disaggregate the non-oil component to manufacture/ non-manufacture, we would see that the source of deficit comes from the manufacturing industry, whereas for non-manufacturing we would have a surplus (Anwar 1993). It shows that the structure of manufacturing industry in Indonesia is basically weak, highly dependent on its natural resources. Thus, manufacturing industries in Indonesia are basically uncompetitive in the world market, creating yet another pressure towards the current account balance.

Dhanani (2000) calls this phenomenon 'shallow export-led industrialization'. Indeed, despite rapid industrialization that had taken place, especially after 1985, the balance of trade in manufacturing was still suffering a deficit from 1978 until the onset of the crisis in 1997 (Figure 3-8). This occurred due to the heavy dependence of the manufacturing sector on imported components, raw materials and machinery.

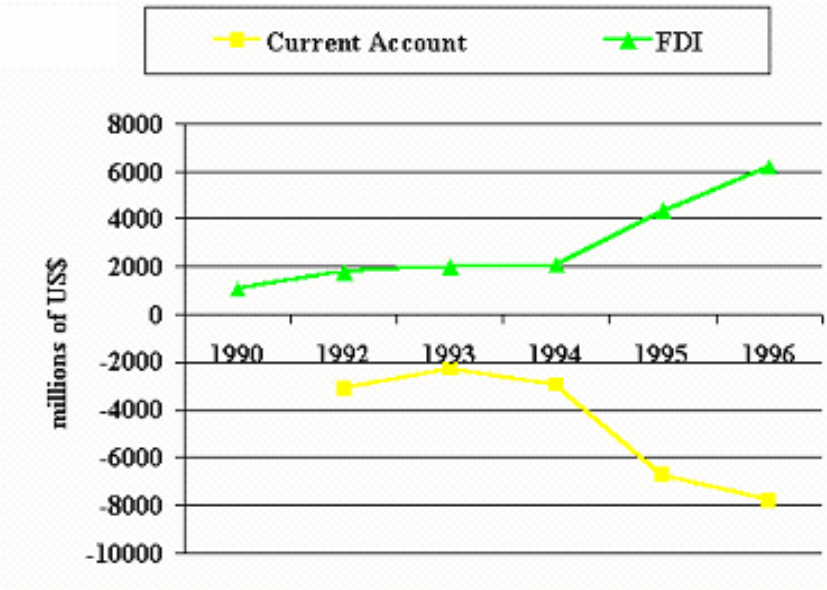
Figure 3-8 Manufactured Exports and Imports, 1978-99 (USD mill/yr)



Source: Dhanani (2000).

If we examine the FDI flows into Indonesia (Figure 3-9), we see a tremendous increase in 1992 and 1995 where the FDI flows had doubled from the previous year. We also see a similar trend in current account deficit with FDI flows, which could suggest that most of the current account deficit (and also the decreased in reserves) was caused (or financed) by the FDI flows. The composition of capital inflows had been considered an important factor in a number of currency crises in emerging market countries. In both the recent Thai crises and in the 1994–95 Mexican crises, the reliance on short-term borrowing to finance large current account deficits was a crucial ingredient precipitating the crises.

Figure 3-9 Current Account and FDI in Indonesia



Source: Bank Indonesia (BI) statistics at www.bi.go.id.

FDI, in contrast to debt-creating inflows, is often regarded as providing a safer and more stable way to finance development because it refers to ownership and control of plant, equipment, and infrastructure and therefore funds the growth-creating capacity of an economy. On the other hand, short-term foreign borrowing is more likely to be used to finance consumption. Furthermore, in the event of a crisis, while investors can divest themselves of domestic securities and banks can refuse to roll over loans, owners of physical capital cannot find buyers so easily.[102]

3.2.1.5 Crisis, Muddling Through and Decentralization (1997-now)

In 1997 Indonesia faced the worst economic crisis after independence. Many analyses have been put forward to explain this crisis. Basically the crisis manifested

[102] In practice, however, questions may be raised about the reliability of data that distinguish direct investment from other capital flows, and some research has shown that net foreign direct investment flows are in fact quite volatile.

itself in the downfall of rupiah exchange rate to the US dollar, followed by a banking crisis that further collapsed the investment activities.[103]

Up to December 2003, Indonesia's economy was basically in a condition of 'muddling-through'. Macroeconomic policy was highly dependant on a series letter of intent set-out by the IMF (IMF's Structural Adjustment Program-SAP), as Indonesian sought IMF help to solve the 1997 economic crisis[104].

After the banking deregulation and the lack of revenues from oil, Indonesia's economy could be said to rely predominantly on the banking sector to finance growth. As the financial crisis had effectively destroyed the Indonesian banking sector, the growth of the economy and thus recovery were left to the consumption activity rather than investment. World Bank (2003: 2) noted that "private consumption remains the main source of growth, accounting for 91 percent of GDP growth in 2002 and 83 percent in the first three quarters of 2003". As for investment:

> Investment is still sluggish at 20 percent of GDP, some 10 percentage points below pre-crisis levels. The composition of Indonesia's investment has been shifting to property investment, which now takes up almost 80 percent of the total. In contrast, investment in machinery and equipment declined from 23 percent of total in 2000 to 18 percent in the first three quarters of 2003, a trend confirmed by the 50 percent decline in machinery imports shown in the most recent trade statistics. (World Bank 2003)

After the crisis, Indonesia decided to opt for 'decentralization'. The decision for decentralization came about in the background of an unstable political and economic landscape. The financial crisis that hit Thailand in the middle of 1997 took its toll on

[103] Between 1993 and 1998, Indonesia's private sector accounted for around three-quarters of the country's total investment, compared to 1980 when it constituted 51 per cent (Hill 1999 cited in Lysaght 2005).

[104] The IMF policy package to 'rescue' Indonesia from the 1997 financial crisis was filled with controversy. As Ramli (2002: 1) noted, the "IMF's misdiagnosis and subsequent policy errors

Indonesia in July 1997 when rupiah drastically lost its value against the US dollar. President Soeharto then resigned on May 1998, with B.J. Habibie as a replacement. Decentralization became a national policy only five months after Habibie assumed the presidency (JICA 2001).

Here, again, we see the dominant role of the President in the decision-making process for public policy. Some have argued that the 'success' of the enactment of the decentralization laws after President Soeharto resigned, was made possible by Habibie's ambition to show the general public as well as Indonesia's foreign counterparts that he was in favor of 'democracy' and would not take the same path as with his predecessor - President Soeharto (which he often referred to as his 'political guru'). As such the transition towards decentralization was made possible by the strong political support of the President.

In the first years of independence, Indonesia had chosen to take a centralized form of governance. The rationale was that a centralized system was necessary for national unity and stability. However, in the late 1990s, once again the argument of national unity and stability was used but for favoring a decentralized system instead. The reason is that because of the pressures from the local regions (that could have arisen because of the growing middle-class) to become more independent of their own fate and to manage their own people and resources.

Despite the agreement to decentralize, the central government seems to still have considerable control towards the local government. Firstly, the choice of '*Kabupaten*' (district/municiplaty, the third tier of government after 'Province'), though it is correct theoretically (because it represent the government that is 'closer' to the

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transformed the crisis into an economic disaster of previously unimaginable proportions ".

people), it is chosen mostly because with more than 300 kabupatens, each kabupaten will have a lower bargaining position compared with the provincial government level. Again, the importance of 'national unity' is the main consideration here (the DPR that drafted the decentralization laws was basically 'centralized' as well, with low representation from the local government representatives). Secondly, the fact that the decentralization laws are ambiguous would require additional regulation infrastructure, either in the form of Government Regulation or Presidential Decree. As such, the central government and the President would still able to control the decentralization process considerably.

As of January 2001, based on Law No 22/1999 and Law No 25/1999, the Indonesia's government should have already implemented the new policy of regional autonomy; the Laws provided the framework for decentralizing authorities once held by central government and gave local governments new responsibilities to manage their own regions (Abidin 2002). These Decentralization and Special Autonomy Laws also devolved from Central Government to Local Governments the authority and corresponding responsibility for the delivery of most basic services[105], including education[106].

The policy reform on decentralization in Indonesia in 1999 is often said to follow some sort of 'big bang' theory in a sense that it was ambitious[107] (directly

[105] Introducing Good Local Governance, The Indonesian Experience UNDP, in http://www.undp.or.id/programme/governance/intro_glg.pdf.

[106] It literally represents an autonomous system of local government, and leaving central government only limited powers like foreign policy, defense, peace and order, judicature, monetary and fiscal policies, religion and others (Article 7). Included in "others" are national planning, national administration, human resources development, usage of natural resources and high technology, conservation of nature and making national standard. (Kimura 1999)

[107] The first of the two decentralization laws (UU 22) decentralized all functions of government except defense, religion, justice, foreign affairs, debt and financial management. This is very different from the

decentralized down to the *Kabupaten* level), hastily prepared (only 2 years transition period) and it was enacted during a period of a larger political reform in 1998.

Asia Foundation (2002) cited in Abidin (2002) in assessing the Indonesia's process of decentralization states five general themes that describe the current status and directions of decentralization:

1. There is an increasing awareness and appreciation of the importance of people's participation in local governance.
2. Local government agencies are committed to improving service delivery and are feeling the pressure to do so from citizens.
3. Local governments have coped with the immediate problem of integrating large numbers of staff by reorganizing and restructuring agencies and units, without downsizing.
4. Though largely dependent on central government transfers, local governments are seeking ways to increase their own sources of income in the form of taxes and retributions. Citizens are also demanding more open dialogue and consultation about budget allocations.
5. Local governments are cooperating and sharing information with one another and with provincial governments to solve a variety of shared problems.

One of the main problems of decentralization, from the perspective of the society is that it could affect public service delivery, like education and health,

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usual approach. Most countries have specified the assignment to the subnational governments, reserving the remainder to the center (Bahl 2003).

especially in the local regions that only have limited resources. It is also because the central government has not made clear regulations regarding the Minimum Standard of Service (*Standar Pelayanan Minimum*-SPM) for public services.

Secondly, as it mentioned before, the central government is still having vested interests in controlling the LGs. The fact that most LGs are still dependant on the transfer from central government (either in the form of DAU, DAK or Revenue Sharing), during transitional period most LG policies would still be 'centralized' to some extent[108].

3.3 Main Sources of Growth: Agriculture, Industry or Oil?

From the above discussions, we can see that many factors and actors have affected Indonesian economic growth. Government has played an important role in the Indonesian economy, both directly and indirectly. The direct intervention of government tends to happen when they have enough revenues to intervene, which usually comes from the oil revenues. The form of intervention usually takes the form in the establishments of SOEs, building of infrastructures, subsidies and price stabilisation.

When oil revenues wane, the government must attempt to secure its revenues elsewhere. The attempt to deregulate in the 1980s, I would argue, did not come from 'noble' attempts of the government to advance the economy. It was just a simple

[108] Under 1997 law, provincial governments are assigned revenue from the motor vehicles' transfer tax, motor vehicles' registration tax, and fuel tax. Districts get most revenue from land and property taxes, but they have no control over rates, and it is administered by and shared with the CG. As of Fiscal Balance Law 25/1999, for onshore (up to 12 miles of the coast) oil, 15% of non tax revenues are shared with regional governments: 3% to the producing province, 6% to the producing district, and 6% to other non-producing districts in the producing province. Proportionate shares distributed are twice that for gas.

pragmatic motivation to secure the budget, especially from the tax revenues charged from export and industrial activities. That is why, I would argue, that Indonesia's attempt to industrialize was too 'late'.

The SOEs, either manufacturing or financial[109] based, could have been the perfect agents for industrialization, as they often have been labeled the agents of development. But the fact that the SOEs were inefficient, they acted more as a 'liability' rather than an 'asset' to the domestic economy (Table 3-10).

Table 3-9 Performance evaluation of Indonesian SOEs'/BUMN (1986 - 1995)

Performance Rating	1986/1988	1989	1990	1994	1995
Very sound	19	32	39	85	92
Sound	13	21	19		
Less sound	20	16	16	97	86
Not sound	49	32	27		
Total	101	101	101	182	178

Sources: 1986-1990 figures: Mardjana 1993:68; 1994 and 1995 figures: Jakarta Post 25 June 1996, in http://www.ciptanet.com/indonesia.html [September 5, 2005].

Some have argued that the balanced budget has been effective in constraining government spending. I would argue on the contrary. As 'foreign debt and aid' were actually included in the revenue side, and the fact that the expenditure-side of the budget have to be 'balanced'[110], the budget has actually provided an incentive for the government to borrow abroad and to over-spend on unproductive SOEs and investments during the oil-boom period. Later on, this has brought devastating impacts that triggered the 1997 financial crisis.

[109] Caprio, et. al. (2004) noted that Indonesia had well-known problems with its state-owned banks and connected lending among its private banks before the Asian financial crisis of 1997-98

[110] An increase in revenues must be accompanied by an increase in spending, a principle known as 'dynamically balanced budget' ('anggaran berimbang yang dinamis') http://archipelago.pacific.net.id/content/ekonomi/csis/PKKdMDsKEM.html .

Prawiro (2004: xxviii) characterizes economic policy in Indonesia as 'pragmatic', which means "a commitment for a more open attitude towards experimentation, rather being dominated by political ideology or economic dogma". I would characterize Indonesian economic policy as 'short-sighted' and 'reactive'. The long-term economic policy in Repelita was never used as real planning documents (as in the case for the emphasis for agriculture in development planning); it acted more as a rhetoric. Instead the government pursued economic policy as 'problems' or 'crisis' arose (like during the deregulation phase in the 1980s), or as 'fortunes' come (as in the 'oil boom' period).

Structurally, the manufacturing industry has been the engine of growth in Indonesia. However, the crisis has shown that the agriculture sector was not simply a marginalized sector in the growth process. As it turned out, agriculture provided some sort of 'cushion' during the economic crises, by absorbing labor from the run-down manufacturing sector.[111] That would explain the relatively stable employment-share of agriculture that still dominates in the economy (Table 3-11).

The relatively dominant role for agriculture in Indonesian economy could be explained by two possible reasons. The first is that despite the agriculture sector being 'marginalized' during the growth process, the government policy of 'food (or rice) security' has been successful to some extent to keep the economy afloat at least above the subsistence level.

The second explanation relates to the concept of dualism in social system proposed by Boeke (1954) cited in Subanu (2004). It was possible that Indonesia was still dominated by the "indigenous pre-capitalist economic system in which the

fulfillment of physical need defines the boundaries of effort, producers only produce as much as they need to fulfill their life support resources" (Subanu 2004: 3).

Panggabean (2004) utilizing data from regional Input-Output table after 1998, finds that for provinces outside Java, the key sectors[112] are actually agricultural based; and also that financial sectors appeared as key sectors in several less-developed provinces. However it must be remembered that these results resulted from analyses using data after the 1997 financial crisis, where the agricultural sector enjoyed favorable terms of trade due to weakening rupiah while on the other hand the industrial sectors suffered due to the crumbling banking sector and reduced demand due to the crisis.

[111] For some case studies, refer to Leinbach (2004).
[112] The determination of key sectors was based on forward and backward linkages.

Table 3-10 Structural Changes in Indonesian Economy

Indicators	1965	1975	1985	1995	2000
			(milllions)		
Population	105.4	135.2	164.6	194.8	203.5
			(billlions of 1999 international dollars)		
Gross Domestic Product	72.8	143.7	280.3	600.5	614.4
Share of GDP			(percent)		
Agriculture	58.7	31.7	23.7	17.1	16.9
Mining, Oil & Gas	2.5	19.7	16.3	8.8	12.9
Manufacturing	7.6	8.9	13.5	24.1	26.0
Services	31.2	39.8	46.5	49.9	44.1
Share of employment			(percent)		
Agriculture	69.2	61.6	54.7	44.0	45.3
Manufacturing	6.9	8.4	9.3	12.6	13.0
Services	23.9	30.1	36.1	43.4	41.8
			(1999 international dollars)		
Per capita income	691	1,063	1,703	3,083	3,020
			(percent)		
Export as share of GDP	n.a.	23.4	21.9	22.6	41.1
Import as share of GDP	n.a.	15.7	12.1	20.2	22.2

Sources: Population, GDP, sector shares, employment, exports, and imports from Statistical Yearbook of Indonesia, BPS. GDP deflator and international dollar exchange rate from World Bank and IMF. Cited in Fuglie (2003).

Table 3-11 Trends in Indonesian Agriculture

Indicators	1961-65	1971-75	1981-85	1991-95
	(millions of 1999 international dollars)			
Agricultural GDP	39,748	46,287	61,256	90,554
Agricultural research	n.a.	87.6	216.7	223.1
Share of Ag GDP		(percent)		
Food Crops	65.1	59.9	61.8	55.8
Non-food crops	17.3	17.1	15.7	16.6
Livestock	6.6	7.1	9.9	11.4
Forestry	3.0	10.3	5.7	6.9
Fisheries	8.0	5.7	6.8	9.3
Rice output (million tons of paddy)	12.4	21.2	35.8	47.5
Livestock (million head)	10.5	9.9	12.0	16.2
		(million ha)		
Total crop land	17.6	18.9	26.4	33.3
Java and Madura	9.0	8.8	8.5	8.9
Other islands	8.6	10.0	17.9	24.4
	(millions of farm households)			
Number of farms	12.14	13.88	15.63	18.10
Java and Madura	7.95	8.27	9.21	10.16
Other islands	4.19	5.61	6.42	7.94
		(ha/farm)		
Average size of farm *	1.07	1.02	1.06	1.17
Java and Madura	0.73	0.66	0.67	0.63
Other islands	1.72	1.54	1.61	1.85
Agricultural research spending		(1999 international dollars)		
Ag research/farm	n.a.	6.31	13.87	12.33
Ag research/capita	n.a.	0.68	1.37	1.16
Rice yield (kg/ha)	1,761	2,542	3,786	4,352
Irrigated cropland (%) **	15.2	16.1	17.9	22.8
Fertilizer use (kg/ha)	6.9	22.7	63.3	73.9
Agricultural wage (kg rice/day) ***	1.1	2.7	3.7	4.1
Ag exports/Ag GDP	n.a.	n.a.	n.a.	0.24
Ag imports/Ag GDP	n.a.	n.a.	n.a.	0.14

* Average farm size based on farm household land holdings and does not include large estate holdings.
** Percent of cropland planted to annuals that received irrigation at least part of year.
*** Wage of male worker in plantation in Java.

Sources: Agricultural GDP, shares of Ag GDP, and agricultural trade from BPS. Rice output, livestock numbers, rice yield and fertilizer use from FAO. Cropland, irrigated cropland, and agricultural wages from van der Eng. Farm numbers and farm size from Agricultural Census (f or census years 1963, 1973, 1983, and 1993). For agricultural research see Table 8 sources. Cited in Fuglie (2003).

3.4 Concluding Remarks

There is still ambiguity of whether manufacturing is really the engine of growth in Indonesia. It would be possible that, fueled by the oil boom and FDI, and distorted by the rent-seekers (rather then driven by entrepreneurs), manufacturing growth yield simply a bubble growth and low-quality growth that would not be sustainable in the long-run.

The true answers to the questions above are out of the scope of the dissertation. It would suffice, for now, to understand that agriculture has the equal chance of becoming the engine of growth as the manufacturing sector in the Indonesian economy.

Chapter 4
Education System in Indonesia

This chapter examines the education system in Indonesia at the macro level. After comprehending the processes of Indonesian economic growth in the previous chapter as a background, we need to understand how the education system evolves and is related with the economic growth process. This is not to say that education is a sub-system of economic growth. Education sector has a system of its own, and might have different internal variables compared with the factors affecting economic growth.

Some of the endogenous or exogenous variables in education however, might intersect with the endogenous and exogenous variables in the economic growth process. The understanding of the mutual variables between the two is the ultimate goal that we hope to reach in the end of this dissertation.

4.1 Goals, Administration and the Curriculum of the Education System in Indonesia

4.1.1 Before Independence

The goals, administration and the curriculum of education are highly intertwined. The goals of education stated by the government determine the structure of the education system, how education is administered, and how the curriculum is drafted. It is especially true for Indonesia, where the state acts as the main provider and regulator of the education system following independence while concurrently society still has limited resources to establish their own education system.

It is not to say that society did not have the sort of 'community-based' schools, autonomously founded by themselves. Such schools have been established even before the Indonesian independence period. Organization like Muhammadiyah (founded in 1912), Taman Siswa (founded in 1922) and Boedi Oetomo (founded in 1908) were among such organizations apart from the numerous Islamic schools that were widely available such as 'pesantren' or 'madrassa'.[113]

Yulaelawati (2000) noted:

> Historically, prior to the rule of Europeans, education for people throughout the archipelago was relatively simple. Children learned from parents or their elders to gain the practical skills needed for survival. Cultivating fields, weaving cloth, and building houses, cooking, and catching fish are examples of the skills, which had been learned by the children without formal instructions. However, very highly specialized lessons were given to children of the aristocracy to instruct them in music, dancing, religion and traditional leadership. Education mutated from domestic practices for peasantry to the more structured padepokan (nonreligious learning center) in parallel with court education for royal

[113] The pesantren was well established in rural Java by the 17th century and was said to has contributed much to the spiritual, cultural, social and economic character of Islamic village life down to the present (Geertz 1956: 144 in http://www.encislam.brill.nl/logincheck.asp).

> families. In the latter, these systems combined with Islamic elements transformed padepokan to become pesantren (Islamic learning center).

A legacy of Dutch rule and Islamic School has left a considerable heritage on the education system. While Dutch administered schools had an 'elite' and 'secular' connotation, the Islamic Schools were regarded as 'traditional/indigenous', 'community-based', 'cultural' and 'religious' education institution. Indonesian society, to some extent, perceived Dutch schools as being better. The Dutch secular schools were also viewed to provide more useful skills for their graduates to participate in the job market. This was because the traditional Islamic school had no planned curriculum and often lacked trained teachers (Lee 1995: 11).

The main role of Dutch administered schools was to supply the colonial administration with indigenous (elite) Indonesians that could manage part of the colony, while providing education for the elite Dutch and Europeans.[114] Though there were some efforts done by the Dutch to provide a more egalitarian education system, the majority of indigenous Indonesians remained illiterate and uneducated during colonial rule.[115]

One of the comprehensive analyses of the characteristics of the Dutch education programs identifies six characteristics as follows (Nasution, 1983: 20 cited in Sirozi 2004: 124):

1. extremely gradual provision of education for Indonesian children;

[114] For a discussion of the education before independence in Indonesia, refer to Lee (1995) chapter 1 and Dhakidae (2003) chapter 2.
[115] Approximately in 1871-1892, the drop-out rates were high and only an estimated of 3.4% successfully completed elementary schools (Lee 1995: 4).

2. emphasis on contradictory dualism between education for the Dutch and education for Indonesians;
3. strict central control;
4. limitations of the objectives of education for the indigenous people, and the use of schools for producing lower class labor;
5. the principle of concordance which made schools in Indonesia the same as those in Netherlands;
6. lack of any systematic education plan for indigenous people.

The Dutch as one of the main features of its colonial policy introduced formal education to Indonesia. It was used as a tool to cultivate and domesticate the "native" mind and to recruit personnel for the bureaucracy. Gjelstad (2003: 3) wrote:

> The Dutch as part of the colonial system introduced formal education to Indonesia, and it was used as a tool to cultivate and domesticate the "native" mind and to recruit personnel to bureaucratic positions.

4.1.2 During Soekarno's Presidency

The early period after independence, the development of Indonesian education system would be determined by its historical heritage and the state's policy towards it, as such the construction of the education system would depends on the views of the elites rather than on the views of the society at large, augmented by the fact that the majority of Indonesians were poor.[116]

[116] The condition of Indonesians before independence could be described by a dialogue spoken by a Dutch Officer around 1919, as the Officer said: "the Javanese (one of the major tribes in Indonesia at that time) are dirty, the Javanese are stupid, the Javanese are lazy…in short the Javanese or Indonesians are one rotten nation in itself" (Dhakidae 2003: 77).

After gaining independence, the new government aspired to provide an egalitarian education system for all Indonesians (Kartono 1997: 83). The system of education was standardized and administered by the central government. Despite the acknowledgement that the state has the ultimate responsibility in managing education, the important role of the private school was also realized (Lee 1995: 39). While the education system should be standardized and centralized, it still has to accommodate the diversity of the Indonesian people.

As a consequence, the courses on religion and local dialects were included and to be regarded as compulsory in the national curriculum of education. The content of the curriculum was also relatively 'secular' and 'nationalist'. To accommodate the aspiration of the Islamic educational organization, separate religious schools were setup administered by the Ministry of Religion.

After independence, the education system in Indonesia was governed by the Law no 4/1950 about the School Teaching and Learning[117], by Law no 2/1989 regarding the National Education System that would later on was revised in 2003 (Tilaar 2003).

According to the Law 12/1954, the characteristics of education in Indonesia were 'nationalistic' and 'democratic'. The meaning of 'nationalistic' seems to be related to the notion that the education in Indonesia must be based on Indonesia's 'indigenous' culture (and probably also due the fact that Indonesian language was used as the medium of instruction). While the meaning of 'democratic'[118] relates more with

[117] According to Abdul Malik Fadjar, the former Minister of Education in the 2001-2004 period, Law 4/1950 was never formalized, and was replaced later by the Law 12/1954. http://www.tokohindonesia.com/ensiklopedi/a/abdul-malik-fadjar/index.shtml

[118] For a discussion on the relation of education and democracy by Indonesian scholar, refer to Kartono

'freedom' and 'liberation'; that no children would be denied of his/her right for education; and that the private sector would be given a wide role to play.[119]

In practice, however, the implementation of Law 12/1954 was basically full of indoctrination, such that it only provided one-sided view of ideology from the administration in power. During Soekarno's presidency, religious content in school was fairly limited and seen as being 'marginalized' (Mastuhu 2001: 21). This could be seen as a reflection of the political condition at that time, as socialist movement has gained considerable position in national politics under Soekarno.[120] In addition, Yulaelawati (2000) noted that "the system functioned to inculcate particular values and beliefs thus; the development of science and technology was given less emphasis".

4.1.3 During Soeharto's Presidency

The goals of the education system, as stated in the Laws no 4 and no 2 were surprisingly similar with the Malaysian goal of national unity. The only difference with Malaysia is that education is to be considered as one of the rights of Indonesian citizen as it being stated in article 31 of Indonesian 1945 constitution and also in the constitution preamble (Tilaar 2003: 42).

Based on the National Education Law No. 2 of 1989 on National System of Education, Article 3:

(1997) that devoted the whole Chapter VIII in discussing this issue.

[119] http://www.moj.gov-rdtl.org/tlaw/IndonesianLaw/uu/Uu195412.htm. Also stated in Mastuhu (2003: 21).

[120] Soekarno was labelled by Gjelstad (2003: 6) as "an important mediator of a kind of indigenous socialism".

> [the] National Education is intended to develop the ability and to improve the quality of life and the dignity of Indonesian man in an effort to realize the national development objectives" (Department of Education and Culture (DEC) 1991: 4 in Yualelawati 2000).

The aim of national education is expressed in Article 4 as:

> The National Education is aimed at elevating the intellectual life of the nation and to develop the complete Indonesian man, i.e., one who is devout and God fearing, with high morals, possessing knowledge and skills, who is physically and mentally healthy, who is of stable personality, independent and has a deep sense of responsibility towards the society and the nation (National Education Law No. 2 of 1989, Article 4, DEC 1991, p. 4 in Yualelawati 2000).

It is also interesting to note that only in 1989 did the Soeharto government issue a new law to manage the education sector. This means that only after 24 years Soeharto saw the need to change the existing regulation on education. Probably it confirmed the low priority that the Soeharto administration put on education matters.

Law No. 2/1989 defines most of the components of Indonesian Education System during Soeharto. The Ministry of National Education administers the general primary schools, junior secondary schools and senior secondary schools, while the Ministry of Religious Affairs administers Islamic education institutions like Madrasah Ibtidaiyah (MI; equivalent to primary school), Madrasah Tsanawiyah (MT; equivalent to junior secondary school) and Madrasah Aliyah (MA; equivalent to senior secondary school) (Hartono and Ehrmann 2001: 4). These Islamic Schools also use the national curriculum of the 'secular' schools, in addition of their own religious curriculum administered by the Ministry of Religious Affair. Other ministries have some schools under their jurisdiction as well, though it only constitutes a small amount of numbers (for details refer to Table 4-1).

Table 4-1 Number of Schools, Pupils/Students, and Teachers by Level of Education and Ministry Academic Year : 1994/1995

No.	Ministry	PS Level			JSS Level			SSS Level			HE		
		Schools	**Students**	**Teachers**	**Schools**	**Students**	**Teachers**	**Schools**	**Students**	**Teachers**	**Schools**	**Students**	**Teachers**
1	Education & Culture	149,464	26,200,023	1,172,640	19,442	6,392,417	392,588	11,495	4,042,442	316,479	1,236	2,229,796	150,607
2	Religious Affair	24,232	3,521,836	138,931	8,129	1,353,229	99,306	3,051	414,766	51,847	265	314,692	19,251
3	Health	-	-	-	8	976	106	210	34,126	6,964	...	...	...
4	Agriculture	-	-	-	10	1,240	157	127	27,278	2,573	...	...	...
5	Industry	-	-	-	2	152	25	9	3,564	364	...	...	...
6	Transportation	-	-	-	-	-	-	5	590	76	...	...	...
7	Social Affair	-	-	-	7	644	97	2	882	136	...	...	...
8	Defence and Security	-	-	-	-	-	-	3	489	83	...	...	...
9	Others	-	-	-	4	508	42	14	2,884	375	...	...	...
Total		**173,696**	**29,721,859**	**1,311,571**	**27,602**	**7,749,166**	**492,321**	**14,916**	**4,527,021**	**378,897**	**1,501**	**2,544,488**	**169,858**

Source: Ministry of Education and Culture (MOEC), Ministry of Religious Affair (MORA),Central Bureau of Statistics (CBS).

Both educational policy in Malaysia and Indonesia are highly centralized. In Malaysia, it started with the Razak Report in 1956 that provided the foundation for the present education system in Malaysia. There had only been minimal modifications at the periphery. Musa (2003: 67) asserts that "the core assumption of Razak Report is that Malaysians should have a uniform system of schooling with a common curriculum to foster national unity". As such, education in Malaysia is a federal responsibility and highly centralized with the MOE controlling every detail of the system, including curriculum and syllabus. Following the NEP, there are special privileges given to the indigenous Malays, such as a quota for a place in local universities.

The country's educational goals are manifested in the Malaysian National Education Philosophy (NEP) which states that:

> Education in Malaysia is an on-going effort towards further developing the potential of individuals in a holistic and integrated manner so as to produce individuals who are intellectually, spiritually, emotionally and physically balanced and harmonious, based on a firm belief in and devotion to God. Such an effort is designed to produce Malaysian citizens who are knowledgeable and competent, who possess high moral standards, and who are responsible and capable of achieving a high level of personal well-being, as well as being able to contribute to the betterment of the family, the society and the nation at large.[121]

The goal of 'national unity' in Malaysian education system, or 'nationalism', is also attached to the Indonesian education system.

If in Malaysia the education policy is being guided by the NEP in terms of affirmative action, in Indonesia the education policy is also being subverted by the political motives of the Government. To ease some demands in the rural areas and other

[121] Malaysia, Ministry of Education (2004).

regional governments, the Central Government has provided some off-budget measures to help local governments in handling the poverty problems in the form of INPRES Grants; it was a funding mechanism system which allowed direct grants to be made by the central government to the local government in two important fields: education (SD INPRES, the expansion of primary school) and health services (PUSKESMAS). The criteria for receiving the grants, however, are arbitrary and are being abused for political reasons to encourage endorsement for the ruling party.

Other political motives in the education policy are also apparent when the post of Minister of Education and Culture in Indonesia in 1984 was headed by Dr Nugroho Notosusanto, a historian and a military general who previously headed the Army History Center in 1965. Previously when Notosusanto headed the Army History Center he had written about the G30S/PKI coup (Nugroho Notosusanto, The Coup Attempt of the September in Indonesia. Jakarta: Dept. Defence and Security, 1970). Having received my primary and secondary education in the 1980s I recall how the curriculum was being bombarded by history lessons about the G30S coup (based on the Government version at that time), under different course-titles but yet with similar contents. The alternative version of the G30S coup was never highlighted until recently. In 1983, a four hour movie about G30S was made that endorsed the intervention of Soeharto in taking over the power from Soekarno. During its premier show, every elementary student –including myself- was required to watch the movie during school time. Since then, every year on the 30th of September, the movie would be aired on all national TV. This tradition has only being halted after Soeharto's resignation in 1998.

Indeed, Education has always been subverted by political motives of the state. Education (as represented by the schools), in this sense, could be viewed as a representation or miniature of political landscape in a respective country or society[122]. In addition education could be used as a tool for assessing or forecasting the possible structure of a society in 12-15 years ahead.

The curriculum of education in Indonesia has evolved through these years, with little improvement.[123] Additionally, major education policies, such as CBSA ('*Cara Belajar Siswa Aktif*') system has been implemented since Pelita II, link and match system (Pelita I, IV and VI) also has been widely documented[124]. The core content of the basic education (primary and secondary level) curriculum in 1994 consisted of: Pancasila (state ideology), religion, civic education, Indonesian language, reading and writing, mathematics (including arithmetic), introduction to sciences and technology, geography, national and general history, handicraft and art, physical and health education, drawing, English, and local content areas.

MOEC (1996) noted that these subjects "..are not the names of subject matter, but more in terms of studies to form personality and elements of ability which are taught and enhanced through basic education. More than one element may be joined in one subject matter or, the other way round, one element may be divided into more than one subject."[125] The detailed hourly unit of each subject is given in Table 4-2.

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[122] Angus (1986: 8) quoted Sirozi (2004: 135) says that 'the very notion of 'education'… is itself both a political construct'.

[123] Eman (2004) noted that after independence Indonesia has reformed its education curriculum in the following years: 1961, 1964, 1968, 1975, 1984, and 1994 (added by the 1999 supplement). The newest curriculum was drafted in 2004 and is called Kurikulum Berbasis Kompetensi or KBK (competency based curriculum). http://www.pikiran-rakyat.com/cetak/0704/19/0308.htm

[124] http://www.republika.co.id/suplemen/cetak_detail.asp?mid=1&id=176479&kat_id=105&kat_id1=151

[125] http://www.ibe.unesco.org/International/Databanks/Dossiers/rindones.htm

Table 4-2 Structure of Study Program for Basic Education Curriculum (Primary School and Junior Secondary School), 1994 Curriculum

		Primary School						JS School		
No	Subject Matter	I	II	III	IV	V	VI	I	II	III
1	Pancasila Education	2	2	2	2	2	2	2	2	2
2	Religion	2	2	2	2	2	2	2	2	2
3	Indonesian Language	10	10	10	8	8	8	6	6	6
4	Mathemathics	10	10	10	8	8	8	6	6	6
5	Sciences	-		3	6	6	6	6	6	6
6	Social Sciences	-		3	5	5	5	6	6	6
7	Handicraft and Arts	2	2	2	2	2	2	2	2	2
8	Health and Sport	2	2	2	2	2	2	2	2	2
9	English	-	-	-	-	-	-	4	4	4
10	Local Content	2	2	4	5	7	7	6	6	6
	Total	30	30	38	40	42	42	42	42	42

Note: School hours: Grades I and II SD = 30 minutes; Grades III to VI SD = 40 minutes; Grades I (VII) to III (IX) SMP = 45 minutes.

As for General Senior Secondary Education (or High School) it consisted of general and specific programs. The specific teaching program is implemented only in the 3rd grade. The detailed information of the GSE curriculum is given in table 4-3.

Table 4-3 Structure of Study Program for General Senior Secondary School, 1994 Curiculum

No	Subject Matter	Number of Academic Hours (AH)				
		General		Specialist		
		Grade I	Grade II	Grade III		
				Language	Sciences	Social
A.	**General**					
1	Pancasila Education	2	2	2	2	2
2	Religion	2	2	2	2	2
3	Indonesian Language and Literature	5	5	3	3	3
4	The General and National History	2	2	2	2	2
5	English	4	4	5	5	5
6	Health and Sport	2	2	(2)	(2)	(2)
7	Mathemathics	6	6			
8	Sciences					
	a. Physics	5	5			
	b. Biology	4	4			
	c. Chemistry	3	3			
9	Social Sciences					
	a. Economics	3	3			
	b. Sociology	-	2			
	c. Geography	2	2			
10	Arts	2	-			
	Sub Total	42	42	14(16)	14(16)	14(16)

No	Subject Matter	Number of Academic Hours (AH)				
		General		Specialist		
		Grade I	Grade II	Grade III		
				Language	Sciences	Social
A.	**Specialist**					
	Language					
1	Indonesian Language and Literature	-	-	8	-	-
2	English	-	-	6	-	-
3	Foreign Language/s*)	-	-	9	-	-
4	History of Culture	-	-	5	-	-
	Sciences					
1	Physics	-	-	-	7	-
2	Biology	-	-	-	7	-
3	Chemistry	-	-	-	6	-
4	Mathematics	-	-	-	8	-
	Social Sciences					
1	Economics	-	-	-	-	10
2	Sociology	-	-	-	-	6
3	Civics	-	-	-	-	6
4	Anthropology	-	-	-	-	6
	Sub Total			28	28	28
	Total	42	42	42	42	42

Remarks:
AH=45 minutes
*) Implemented in extra curricular activities to be in line with extra academic time available.

Looking at the school curriculum above, it could be generalized that the education system in Indonesia is relatively 'secular[126]'. The primary school curriculum described above, represent some features of Indonesian politics. Firstly it represent the fact that religion classes, while it only consists of 7% in PS curriculum and 5% in JS school, are still considered important by the state. The clash between Soeharto and the PKI (Indonesian Communist Party) in 1965 might encourage the government to maintain the teaching of religion in its school.[127] Also, during the Soekarno administration the teaching of religion was considered unimportant and was not required for graduation[128], while in Soeharto's it was necessary to achieve 'pass' grade in religion classes in order to graduate.[129]

Secondly, the curriculum represents the government goal of achieving 'national unity'. The classes on 'Bahasa Indonesia' (Indonesian Language) consisted of 1/3 of the curriculum for primary-1 (P-1) and P-2. The development of Bahasa Indonesia as a national language has been emphasized since the revision of curriculum in 1964 (Yulaelawati 2000) and it is probably related to the goal of national unity.

The local content in Indonesia's curriculum of national education is low. The Indonesian national education system is heavily centralized due to the 'national unity' objective. Yulaelawati (2000) wrote that "All curricula of all types and levels of

[126] Federman et. al. (xxxx: 4-5) stated that "While most schools (in Indonesia) are secular, some private and publicly funded schools have a largely Islamic curriculum.
[127] For an interesting discussion on the clash between Soeharto and the PKI, refer to Dhakidae (2003: 200-225).
[128] Soekarno was the strong proponent of NASAKOM (Nationalist-Religion-Communist) idea; he wanted to combine the power of nationalism, communism and religion as the people's power.
[129] Nevertheless, Dhakidae (2003) wrote that "the New Order could be considered as a battlefield between religion and the state" (translated, p.xxxiv).

education should contain (1) Pancasila education, (2) religious education, and (3) civics education". Not until 1990s that the central government allows some local content in the education system, as it represented by the 1994 curriculum. Some of the national and local content of the curriculum are described in table 4-4.

Table 4-4 Indonesia: National Curriculum versus Local Content Curriculum in the 1990s

National Curriculum (80%)	Local Content Curriculum (20%)
Pancasila and civic education	Agriculture
Religion (Islam, Christianity, Catholicism, Hinduism, Budhism)	Environmental education
Indonesian Language	Computer and information
Reading and Writing	Local culture – dance, local language, traditional games, etc.
Mathematics (Arithmetic)	English (PS)
Introduction to science and technology	
Geography	
National and World History	
Handicraft and arts	
Sports and health education	
Drawing	
English language (JSS)	

Source: Ibrahim (1998) in Yeom, et.al. (2002).

As such some consider the 1989 Education Law as a landmark change in light of the recent 1994 education reform. Yulalelawati (2000) wrote:

> First, it extends basic education from six years to nine years of schooling at the primary and lower secondary schools. Second, it delegates from central government to regional offices the design of the local curriculum content (LCC). Third, it allows teachers to have a more flexible adjustment of the national curriculum to the local situations and contexts. Fourth, the head-teachers are given more options to select supplementary textbooks for their schools; fifth, local heterocultural preservation and development are highly encouraged. Moreover, the teaching of English at the primary schools is now permitted, particularly for schools in the tourism and urban areas

The tension between 'local content' and 'national unity' has existed since the beginning of independence; this tension was reflected in the slogan of '*Bhinneka*

Tunggal Ika' (Unity in Diversity). The dominance of national content in the education curriculum again could be seen as the reflection and miniature of the dominance of Central Government over Local Government (the provincial and district level) as it demonstrated more clearly by the financial domination of the Central Government through the Central Government's Budget. Some of these issues will be discussed in detail in the following discussion regarding decentralization.

4.1.4 Reform and Decentralization in Education

Reforms in the education sector usually took the form of decentralized financial responsibility and decision-making from central to local government or school levels in order to gain direct and broaden participation and or feedback from the society. This decentralization has provided possibilities for broadening public participation, by establishing community participation and other partnerships (like NGOs), as well as greater flexibility and improved access to educational services. Unfortunately, it has often been accompanied by declining budget resources at the municipal level, as well as changing structural conditions and patterns of social dialogue and participation.

In decentralized systems, challenges include the capacity to finance and manage at local levels and to build linkages and effective partnerships between the various institutions concerned and at different governance levels[130].

In 2003, a new law on the national education system was passed. The new law, despite one of its mission to 'empower society participation in the provision of

[130] International Labor Organization, Sectoral Activities Programme, The Impact of Decentralization and Privatization on Municipal Services, Report for discussion at the Joint Meeting on the Impact of Decentralization and Privatization on Municipal Services Geneva, 15-19 October 2001 International Labor Office Geneva.

education based on the autonomy principle'[131] however, remains vague and does not specifically address issues on education decentralization issues. The law does refer to Law no. 22/1999 and 25/1999 with respect to regional autonomy.

The law does not explicitly state the division of rights and responsibilities between the central and local government. Chapter 4, article 11, only refers to 'shared responsibilities' between central and local government to provide education services and to guarantee education provisions for citizens aged 7 to 15 years old. While article 10 mentions the 'shared rights' between central and local government in directing, guiding, assisting, and controlling the education provisions according with the existing regulations, the law does not point to any particular regulations.

As it is common with any law (*Undang-Undang*) in Indonesia, the law usually represents a very general policy direction, and needs further regulations so as to be effectively implemented. The regulations for implementation usually take the form of Government Regulation (*Peraturan Pemerintah*) or Presidential Decree (*Keputusan Presiden*) that is drafted by the Government without needing any approval from the Parliament (*Dewan Perwakilan Rakyat*-DPR).

As such, considerable discretion and policy space are still available for central government for making its maneuver and authority. In article 11 Law 22/1999, the local government is said to be responsible for education policy in its own localities. With Local Government being subjected to education provisions, the financing of education, especially primary and secondary education, would be dependent on the ability of local government in generating its own revenues besides the revenues they are entitled to from the central government.

[131] Law 20/2003, explanation chapter.

Looking at the condition before decentralization in 1996, Provincial Governments' PAD varied between 6 to 60% with an average of 25%. Almost 70% of revenues came from central government in the form of shared revenues and grants (table 4-5).

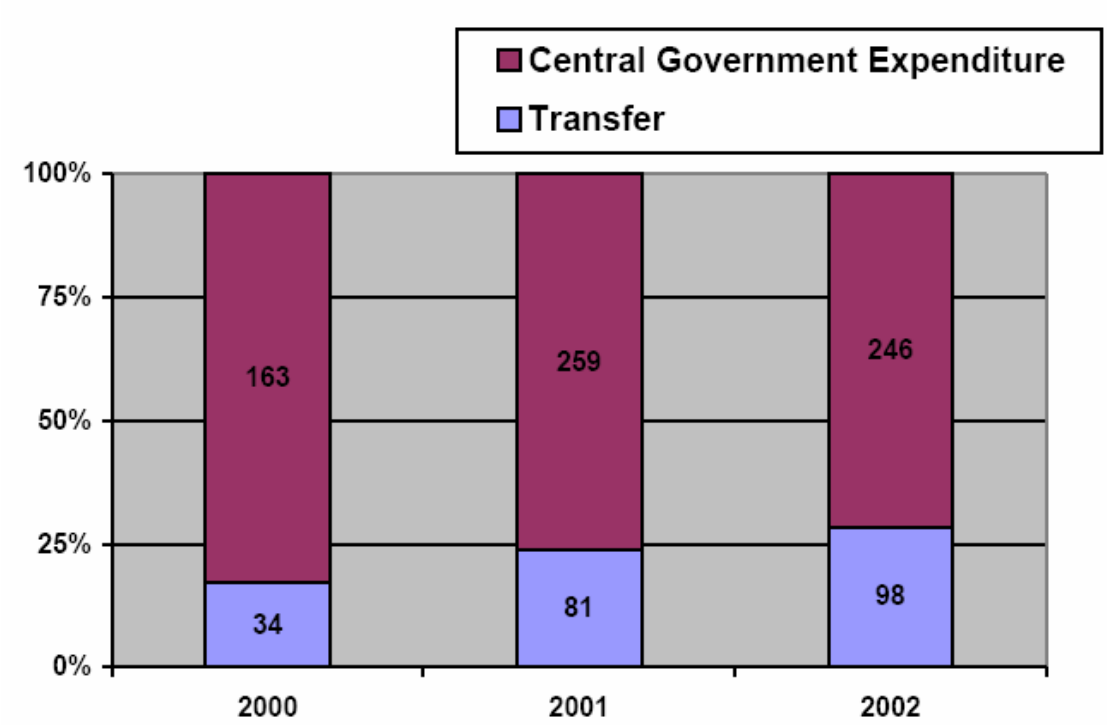
Table 4-5 The Composition of Provincial Revenues in 1996 (in %)

Province	Local Owned Revenues/ Pendapatan Asli Daerah(PAD)	Tax and Non-Tax Shared Revenues/Bagi Hasil Pajak danBukan Pajak	Aids and Grants	Others	Total
DI Aceh	17.82	10.45	62.37	9.36	100.00
Sumatera Utara	25.52	6.29	63.05	5.14	100.00
Sumatera Barat	36.12	8.38	44.14	11.36	100.00
Riau	34.63	24.06	24.81	16.50	100.00
Jambi	25.54	11.31	50.02	13.14	100.00
Sumatera Selatan	32.32	19.36	36.10	12.22	100.00
Bengkulu	20.50	5.41	65.17	8.92	100.00
Lampung	36.93	5.15	49.69	8.23	100.00
DKI Jakarta	60.13	13.04	12.93	13.90	100.00
Jawa Barat	32.94	3.57	58.54	4.95	100.00
Jawa Tengah	21.93	2.15	71.63	4.29	100.00
DI Yogyakarta	25.07	2.36	66.91	5.66	100.00
Jawa Timur	29.72	2.97	59.76	7.73	100.00
Kalimantan Barat	23.57	15.61	56.01	4.81	100.00
Kalimantan Tengah	6.49	23.09	65.29	5.13	100.00
Kalimantan Selatan	24.43	21.42	48.28	5.87	100.00
Kalimantan Timur	24.81	34.55	29.06	11.57	100.00
Sulawesi Utara	20.96	10.81	66.08	2.16	100.00
Sulawesi Tengah	9.51	4.68	83.64	2.17	100.00
Sulawesi Selatan	38.74	13.08	37.29	10.89	100.00
Sulawesi Tenggara	12.64	10.45	72.35	4.56	100.00
Bali	52.30	4.55	27.84	15.31	100.00
Nusa Tenggara Barat	23.91	5.24	64.59	6.25	100.00
Nusa Tenggara Timur	24.02	4.94	65.52	5.51	100.00
Maluku	12.47	15.39	66.91	5.23	100.00
Irian Jaya	7.48	32.36	42.15	18.01	100.00
Timor Timur	8.96	4.68	82.40	3.95	100.00
Average	25.53	11.67	54.54	8.26	100.00

Source: LPEM-FEUI in Simanjuntak (2000) cited in Ismail (2001).

Looking from the central government budget (APBN) point of view, in 2002 more than 25% of APBN has been transferred to local government (figure 4-1). This figure is actually quite reasonable, as Bahl (2003) stated that the predicted level of fiscal decentralization for Indonesia is around 25 percent.

Figure 4-1 Central Government Budget: Transfers and Central Government Expenditures, % and Rp trillion



Source: APBN 2000, 2001, 2002 in Sidik (2002).

Indonesian Parliament has recently reacted to the condition of low education financing by enacting a law (UU NO.20/2003 article 49) that education expenditure should be at minimum 20% from the Central and Local Government budget. Even then, according to the Finance Minister, the above objective would only be attainable in 2009[132].

[132] Media Indonesia, News Daily, 27 January 2004.

For Local Government, in 2001, from the data of 357 provincial, kabupaten and city budgets, the percentage of education budget has reached up to 28.30 percent. In 2002, the figures slightly declined to 27.3 percent. In 2003, the figure has reached 37.8% of the total routine expenditures in the local regions (Vidyattama 2004).

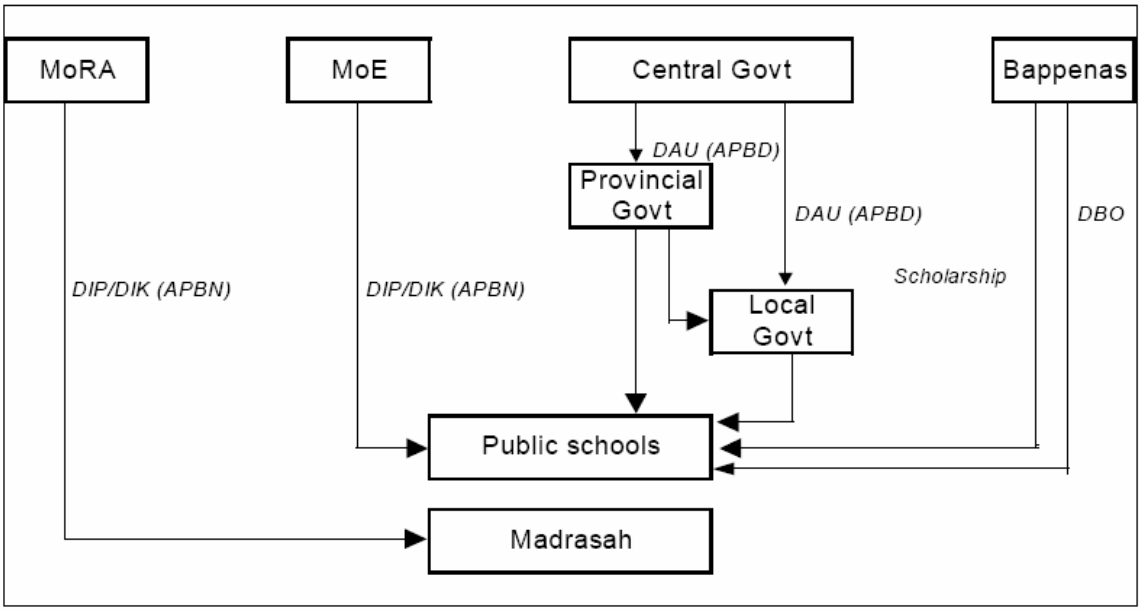
One of the critical issues in decentralization is that the large variations in local government fiscal ability would negatively affect the quality of public service provisions in the respective local government. Some regions have allocated more than 50% from total expenditures for education, but others only spent 13.40 % of the total budget in 2002. That is why the notion of 'minimum standard of service' is very important to prevent the decay of public service quality.

With respect to Laws 22 & 25/1999, the central government has issued the Government Regulation (PP) 105/2000 as the regulation infrastructure to implement the decentralization Laws. PP 105/2000 uses the concept of 'performance budget' (article 8) as a guideline for local government in structuring their budget. Further more, article 20 required the local government budget to contain the expected 'service standard' and 'activities' unit cost'. However, looking at the current local government budgets, neither one of those requirements is fulfilled. One of the reasons cited by local government officials was that they were still waiting for further instruction from the central government in meeting the requirements (in the form of Presidential Decree).

With 171,000 public primary schools (1.4 million teachers) and 31,000 secondary schools (0.68 million teachers) that are now under the direct responsibility of local governments, the quality of education provisions in each local government could

be expected to be directly related with the capabilities of local financing (Kaiser 2004). The scheme of education financing in post-decentralization era is given in figure 4-2.

Figure 4-2 Post-Decentralization Multiple Flows



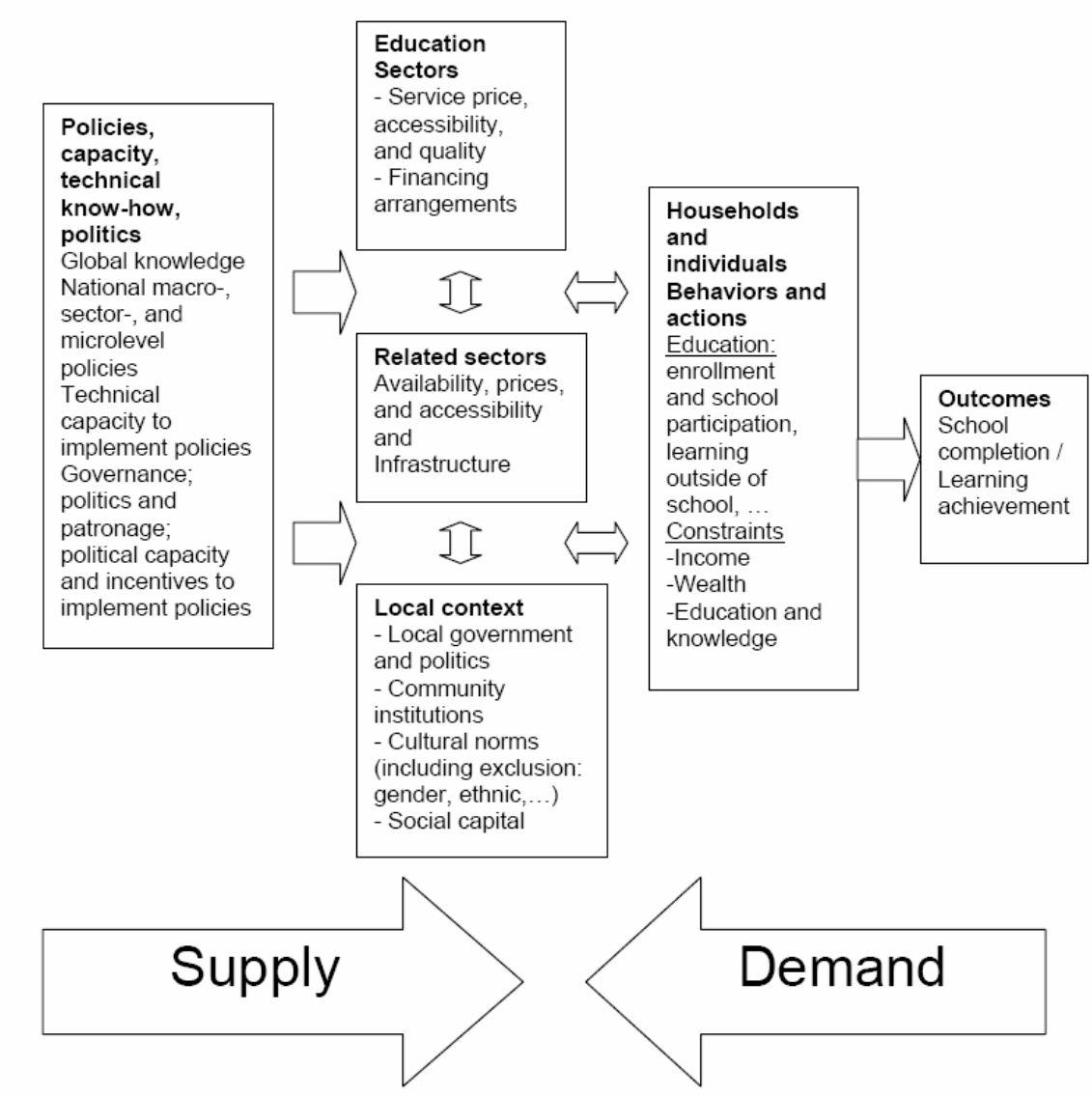
Source: WB Education Sector Review 2004 in Kaiser (2004).
Notes: MoRA=Ministry of Religiuous Affairs (Departemen Agama), MoE=Ministry of Education, Bappenas=The Agency for National Development and Planning (Badan Perencanaan dan Pembangunan Nasional).

Preliminary reports from the Ministry of Education (MOE) in 2003 stated that the fiscal imbalance for primary education was estimated to reach around Rp 25 billion p.a., or an increase of 20% from the previous year's budget on education. While for Junior Secondary School (SMP) the same level of Rp 25 billion p.a. is also expected, or a two-fold increase in expenditure for junior secondary education expenditures (Depdiknas 2003).

It must be remembered that education outcomes are determined by more than the availability and quality of schooling. Many factors determine outcomes on both the demand and the supply side, linked at many levels. The demand for education is

determined by individuals and households weighing the benefits and costs of their choices and the constraints they face. The supply of services that affect education outcomes starts with global technological knowledge and extends even to whether teachers report for work (Filmer 2003).

Figure 4-3 The Determinants of Demand and Supply for Education



Source: Adapted from Filmer (2003).

4.2 Access and Quality of Education

The numbers of schools increased quite fast during the Soeharto administration, especially at the primary level. It is considered part of the Government effort to promote the rural areas by building public infrastructure. Darja, et.al. (2004: 6) noted that:

> One of the first such massive projects was the SD Inpres project. It was launched in 1973 with the aim of providing equal access to primary-level education to all Indonesian school-age children. To achieve this objective, the project built more schools in places where there had been relatively less school prior to 1973. Specifically, the number of schools constructed in each district in 1973-1975 was proportional to the number of primary school age children not enrolled in school in 1972. It was the largest infrastructure project at the time it was launched, absorbing 12 percent of the regional development budget in 1973 and increasing steadily to reach 28 percent in 1979. Between 1973 and 1979, 61,807 new primary school buildings were constructed, which represented about 222 new schools and 666 new teachers per district. This project had roughly doubled the number of primary schools in Indonesia.

Additional information on the Inpres program is provided in the table 4-7.

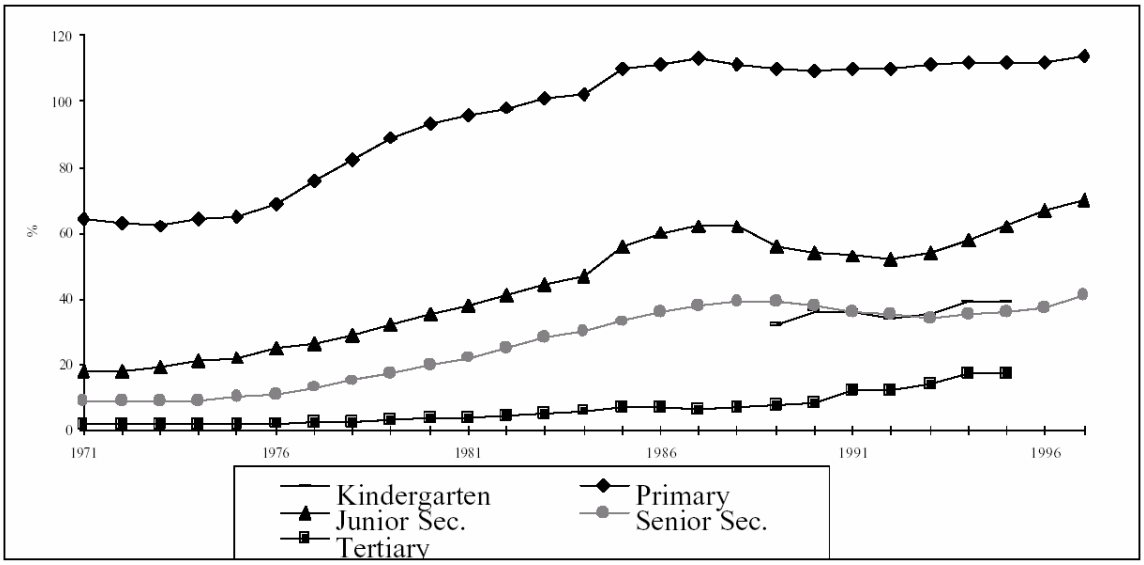
Table 4-6 Background Information on the INPRES Program

INPRES schools constructed (1973–1974 to 1978–1979)	222
INPRES schools constructed per 1000 children (1973–1974 to 1978–1979)	2.34
Number of teachers in 1973–1974	1,530
Number of teachers in 1978–1979	2,082
Number of schools in 1973–1974	219
Fraction of the population attending schooling 1971 (Census)	0.174
Enrollment rate in primary school in 1973 (Ministry of Education and Culture)	0.68

Source: Sources: IFLS, SUPAS, SUSENAS, INPRES instruction, Census (1971), Ministry of Education and Culture in Duflo (2001).

The expansive construction of schools[133] had made possible the increase of enrolment at the primary level.[134] The primary gross enrolment rate had started to increase since 1976. This expansion was made possible by the windfall profit from the oil revenues, that were channeled through the Central Government's expenditures on regional development (the real value of regional development expenditures more than doubled between 1973 and 1980) (Duflo, 2001: 797).

Figure 4-4 Gross enrolment rates from 1971 to 1997 by school level



Source: Lanjouw (2001).

The effort of the government to achieve a universal basic primary education has been widely documented and acknowledged. The building of educational infrastructure was, of course, necessary to build a new 'Indonesian Man'[135], as Gjelstad (2003: 3) noted:

[133] However, the maintainance of the school building seems to be lagging behind. Some schools in remote areas, such as Irian Jaya, was never been renovated since the 1970s. http://www.tokohindonesia.com/ensiklopedi/a/abdul-malik-fadjar/index.shtml

[134] The expansion was made possible from the windfall profit from oil revenue that started to accumulate since 1974 (Dhakidae 2003: 282).

[135] One of the goals of Indonesian education based on the law was to build a new Indonesian Man.

> The actual building of these "new" Indonesian men required a huge infrastructure in terms of physical buildings, parental motivation, and teacher training.

The dominance of public school in the primary level, however, was not extended to the junior-secondary and upper level. In 1994/1995, the number of private Junior Secondary School (JSS) was 55% of the total JSS school in Indonesia. The percentage of private school tends to move upward as we move to upper level of education. In Senior High School (SHS), the percentage of private school was 73%, while at the university level, around 96% of universities were private.

(National Education Law No. 2 of 1989).

Table 4-7 Number of Educational Institutions/ Academic Year : 1994/1995

		Status of School		***Total***
		Public	***Private***	
A.	***Ministry of Education and Culture***			
1	*Kindergaten (KG)*	71	40,435	40,506
2	*Special School (SS)*	23	621	644
3	*Primary School (PS)*	139,189	10,275	149,464
4	*Junior Secondary School (JSS)*	8,768	10,674	19,442
5	*Senior Secondary School (SSS)*	3,103	8,392	11,495
	a. *General Senior Secondary School (GSSS)*	2,398	5,337	7,735
	b. *Economics Senior Secondary School (ESSS)*	340	1,671	2,011
	c. *Home Economics Senior Secondary School (HESSS)*	86	81	167
	d. *Other Vocational Senior Secondary School (OVSSS)*	62	168	230
	e. *Technical Senior Secondary School (TSSS)*	153	944	1,097
	f. *Agriculture Technical Senior Secondary School (ATSSS)*	45	153	198
	g. *Other Technical Senior Secondary School (OTSSS)*	19	38	57
6	*Higher Education (HE)*	52	1,159	1,211
	a. *University*	31	248	279
	b. *Institute*	14	47	61
	c. *School Of Higher Learning*	4	476	480
	d. *Academy*	2	380	382
	e. *Polytechnic*	1	8	9
B	***Ministry of Religious Affair***			
1	*Islamic Primary School (IPS)*	607	23,625	24,232
2	*Islamic Junior Secondary School (IJSS)*	582	7,547	8,129
3	*Islamic Senior Secondary School (ISSS)*	350	2,701	3,051
4	*Islamic Higher Education (IHE)*	14	251	265

Source: MOEC, Ministry of Religious Affair, Central Bureau of Statistics.

Both the Government of Malaysia and Indonesia, provided free elementary education. Malaysia provides 11 years of free schooling (6 primary and 5 secondary) but it is not compulsory. Though it is provided 'free' (as no tuition fee is required) parents would still have to spend some money for books, uniforms, transportation and other non-tuition expenditures (Musa 2003: 69). The situation was similar in Indonesia.

Even though primary education in Indonesia has been compulsory and free since 1977/78, Pangestu and Oey-Gardiner (1992) stressed that there are children who still cannot afford to go to school. The reason was that their parents simply cannot afford to purchase the needed uniforms, school supplies and other school materials. Other reasons for non-attendance were that parents still do not realize the importance of education. Furthermore, the distance to school being too far and parents needed their children to help out in their work. The rate of school drop-outs by educational level has also increased since 1984. The high percentage of drop-outs was due to lack of funds. While growth in terms of the number of schools and the wide coverage in itself was impressive, such achievements was negated as less priority was given to maintain the quality of education, i.e. in terms of educational performance and standards. In general, the performance of pupils in the rural areas of Indonesia was poorer than that of urban pupils, indicating the difference in the quality of instruction (Pangestu and Oey-Gardiner 1992: 62).

To conclude, despite the successful effort of the Government of Indonesia (GOI) to expand educational access and quality at the primary level, the situation has not been complementary in the upper level. The expansions on the upper level were basically left to the private sector.

There were more private schools at the Junior Secondary School and the upper level. However, to deny the GOI contribution at the above primary school level would also be misleading.[136] Most of these private schools have actually benefited from the availability of human resources at the public school, as most public schools' teachers usually teach at the private school to further increase their limited income. As most teachers are civil servants, their payrolls were coming out from the GOI budget. So at least in this respect the GOI has provided some kind of 'positive externalities'.

Thus despite the quite high value of enrollment rates in the Junior Secondary age group of 80% in 1998/99, only 66% of the poorest quintile of the society were able to study at the Junior Secondary School; the enrollment dropped further to only 29% for the Senior Secondary age group. Based on this, one assumes that as the education ladder went up to higher level, a more 'elitist' pattern would appear on the education enrollment value.

Indeed, the bulk of government spending was directed towards primary school (refer to Table 4-8), even some considered this as not enough to provide quality education services for the people. As the World Bank (2003) noted:

> [Indonesia] … has seen great gains in primary and lower secondary enrollment as a result of strong political will, but educational quality remains very low. The school year in Grades 3-6 is among the longest in the world (over 1400 hours annually for single shift classrooms), but the potential impact of this extraordinary effort is lost in part because the school year in Grades 1 and 2 is among the shortest in the world (under 500 hours annually in most cases). Government is increasing the intake level of teachers to the equivalent of a bachelors' degree, but significantly decreasing the average salary level. And finally, it does a good job of providing fee waivers for poor children but has ceased to

[136] Bray (2002: 10) even considered that Private versus Public Education as ' False Dichotomy'. He noted that "In Cambodia, 60 percent of the resources for public primary education are provided directly by households rather than indirectly via the State, while in Indonesia, 69 percent of the resources of private primary schools are provided by the Government"

provide free textbooks, meaning that these children often attend school under very disadvantaged circumstances.

Table 4-8 Total Yearly Expenditures on Education by Source of Funds and Level of Schooling, 1995-96 (in billions of rupiahs)

Type of school	Number of students (1000)	Education system and school spending			Out-of-school spending by families	Grand totals	% spent by school levels
		Central govt.	Family & other non-govt.	Total in-system spending			
Primary (SD)	29,448	5,508	537	6,044	1,285	7,329	34%
Junior Secondary (SMP)	8,403	1,925	860	2,785	886	3,671	17%
Senior Secondary (SMA)	4,616	1,714	803	2,517	769	3,286	15%
Tertiary	2,650	1,537	3,893	5,431	653	6,084	28%
General Administration & other education		1,279		1,279		1,279	6%
Totals	45,177	11,963	6,093	18,056	3,593	21,649	100%
% Distribution by Source of Funds							
Source of total spending	55%	28%	83%	17%	100%		
Source of school system spending	66%	34%	100%				

Source: Government budget documents, nation-wide surveys, national economic survey; quoted Clark (1998).

Table 4-9 Age-Specific Enrolment Ratios in Junior and Senior Secondary Age Group by Quintile Expenditures

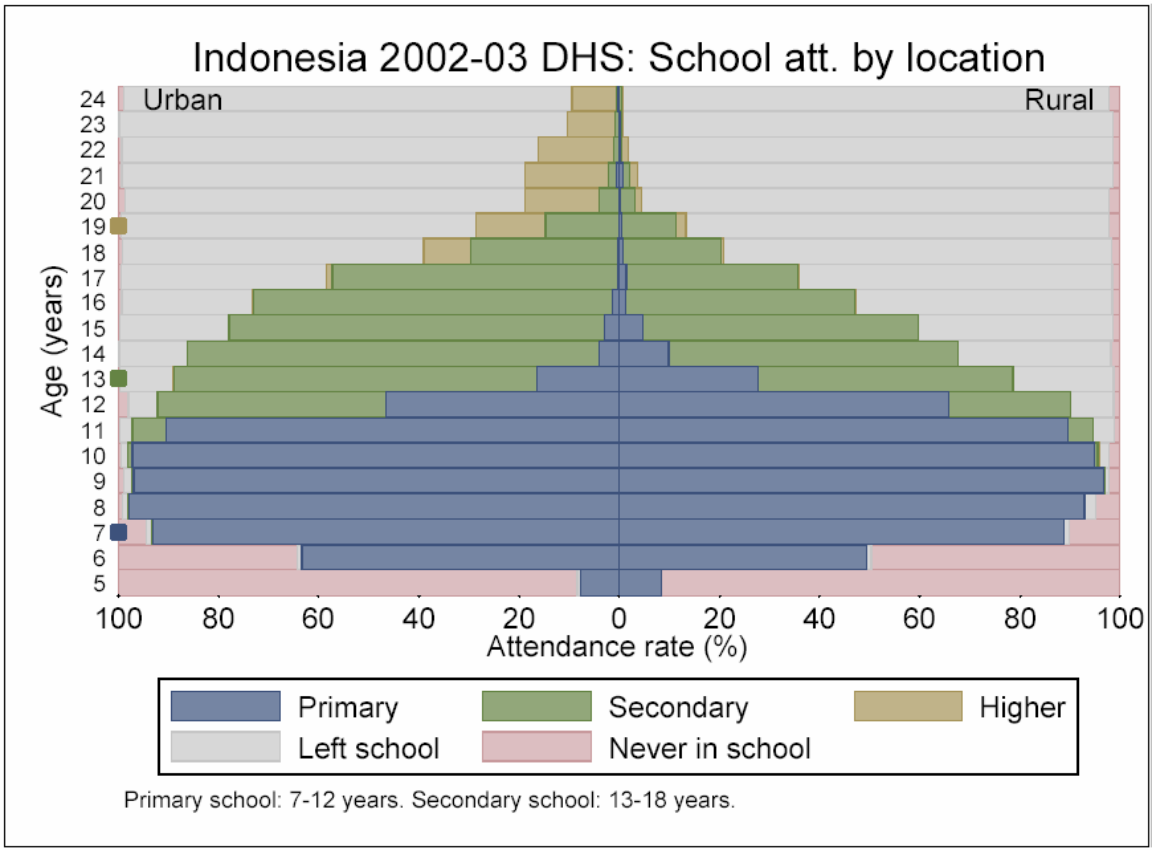
	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99
7–12 years (Primary School Age Group)	92.8	94.1	93.9	94.4	95.4	95.1	95.2
Poorest quintile	88.3	89.9	90.1	90.3	91.8	91.4	91.8
Richest quintile	98.1	98.6	98.3	98.5	98.8	98.9	99.1
13–15 years (Junior Secondary Age Group)	68.9	72.4	73.2	75.8	77.5	77.2	79.1
Poorest quintile	51.6	55.8	57.4	60.3	62.7	63.3	66.3
Richest quintile	89.3	89.3	91.0	91.9	92.3	92.9	92.8
16–18 years (Senior Secondary Age Group)	42.6	45.3	44.6	47.6	48.6	49.3	51.2
Poorest quintile	18.2	20.8	20.7	22.5	25.6	25.6	29.1
Richest quintile	69.5	71.3	70.3	74.2	72.9	75.4	75.0

Source: BPS, special tabulations from Susenas 1993-1999. For the years 1993-1998, taken from Oey-Gardiner, 2000, quoted in Hartono, Djoko and David Ehrmann (2001).

Despite the fact that parents still have to bear some costs of schooling, both Malaysia and Indonesia have succeeded in increasing its primary enrollment ratio. However in terms of secondary education enrolment, Malaysia and Indonesia still lags behind the more industrialized countries of Asia, such as Singapore and Korea (Table 4-10). This could be that as students become older, the 'opportunity cost' for them to go to school went up, because during secondary school the students actually could get a job which could help their family for additional income, especially for poor families.

In addition, the quality and access of education was better at the urban compared with the rural areas. More than 20% of children in the age of 13 have to leave school in the rural areas, compared with only around 10% in their urban counterparts. Practically no students in the age of 18 in the rural areas could afford to continue with higher education, compared with almost 20% in their urban counterpart (Figure 4-5).

Figure 4-5 School Attendance by Location, 2002-03



Source: UNICEF (2005).

Table 4-10 School enrollment, (% gross)

Countries	Series Name	1960-1965	1970-1975	1980-1985	1986-1990	1991-1996
Indonesia	Primary	71.5	83.0	113.7	116.0	114.5
	Secondary	9.0	18.0	35.3	46.4	45.3
	Tertiary	1.0	na	5.3	9.2	10.5
Korea	Primary	97.5	105.0	104.3	100.6	99.3
	Secondary	31.0	49.0	84.2	92.0	96.0
	Tertiary	6.0	na	24.3	38.6	48.1
Malaysia	Primary	93.0	89.0	97.2	95.8	100.5
	Secondary	23.5	38.0	50.5	57.2	58.2
	Tertiary	2.0	na	5.0	7.2	10.0
Philippines	Primary	104.0	107.5	109.2	110.4	111.5
	Secondary	33.5	50.0	65.3	70.6	76.8
	Tertiary	19.0	na	24.6	27.4	28.6
Singapore	Primary	108.0	107.5	108.8	104.4	102.7
	Secondary	38.5	49.0	57.5	68.8	67.0
	Tertiary	10.0	na	10.7	18.6	28.7
Thai	Primary	80.5	83.0	97.7	98.0	92.5
	Secondary	13.5	21.5	30.2	28.6	45.0
	Tertiary	2.0	na	16.8	16.2	19.3

Source: World Bank, WDI CD-ROM.

The gross enrollment ratio, however, only mentions half the story. It does not take into account the dropout rate. Looking at other indicator of education, mean years of schooling, the difference between Malaysia and Indonesia started to materialize. In 2000, Indonesia's mean years of schooling (5 years) constituted only half of Malaysia's figure (Table 4-11). This could reflect the highest dropout rate in Indonesia compared with Malaysia.

Table 4-11 Literacy rates and mean years of schooling in Southeast Asia

Country	Adult literacy rate 1999	*Mean years of schooling*			
		1970	1980	1990	*2000*
Singapore	92.1	7.5	8.5	9	*9.5*
Malaysia	87.0	6.3	8	9.2	*9.4*
Thailand	95.3	4.1	4.4	5.6	*6.5*
Philippines	95.1	4.8	6.5	7.3	*8.2*
Indonesia	86.3	2.9	3.7	4.0	*5.0*
Vietnam	93.1	n.a.	n.a.	3.8	*n.a.*
Laos	47.3	n.a.	n.a.	n.a.	*n.a.*
Cambodia	68.2	n.a.	n.a.	n.a.	*n.a.*
Myanmar	*84.4*	*1.4*	*1.6*	*2.5*	*2.8*

Source: UNESCO, in Sjöholm (2002).

4.3 Financing of Education

In ASEAN countries, Malaysia constantly has the highest public education expenditures with a share of above 4% followed by Singapore. According to the survey of Malaysia's university graduates, the Malaysian government was actually the largest employer of university graduates, with 70% of employed graduates working for the government and statuary bodies (56.9% and 13.3% respectively). In contrast, only 29.8% of employed graduates (or 19.5% of all graduates) worked for private firms or were self-employed (Mehmet and Yip 1986).

Ariff and Yeoh (1992: 43) stated that Malaysian society has always attached a premium on higher education, although it was biased towards academic and professional pursuits, with technical and vocational training being relegated to the back seat. This was presumably due to the social status attached to white-collar jobs and to the fact that vocational jobs were not financially as rewarding.

Malaysia has indeed put strong emphasis on education. As Musa (2003: 4) noted:

> A measure of the importance of education is reflected by the fact that the ministry has always been regarded as very senior and prestigious. The first minister of education was no less than the deputy prime minister himself, Tun Razak. Every prime minister except the first had been in charge of that portfolio. The ministry consistently gets the largest budget allocation; in the latest (2003) it received a whopping 27% of the total outlay.

While on the other hand, government expenditure for education in Indonesia was low (only slightly above 1% of GDP) compared with Malaysia, and even with other countries as shown in Table 4-13. In terms of total government expenditures, Malaysia ranked 3rd, after Singapore and Philippines, with a percentage of 15.4% in 1996. Indonesia probably ranked the lowest among other Southeast Asian countries; with only 8% of total government expenditures spent on education in 1996 (refer to Table 4-14). Not until recently that the Indonesian Parliament reacted to the condition by enacting law (UU NO.20/2003 article 49) that education expenditure should be at minimum 20% from the Central Government budget. Even then, according to the Finance Minister, the above objective would only be attainable in 2009[137].

[137] Media Indonesia, 27 January 2004.

Table 4-12 Government Expenditure: Public education expenditure as a % of GDP

	1960	1965	1970	1975	1980-85	1986-90	1991-95	1996-98
Brunei Darussalam	..	..	..	2.0	1.7	4.7	3.9	4.4
Cambodia	3.4	3.7	5.8	..				4.2
Indonesia	..	..	2.6	2.7	1.8	0.9	1.3	1.4
Lao People's Dem Rep	..	..	..	..	0.4	0.9	2.4	2.3
Malaysia	..	4.1	4.0	5.7	6.2	5.9	4.8	4.8
Myanmar	2.2	2.7	3.1	1.7	1.9	2.0	1.2	
Philippines	2.2	2.4	2.7	2.0	1.7	2.5	2.7	3.4
Singapore	3.1	4.4	3.2	2.9	3.9	3.5	3.3	
Thailand	..	2.4	3.2	3.5	3.7	3.4	3.8	4.7
Viet Nam	..	..	..	..		2.0	2.4	2.9
Asia (excluding Middle East)	..	3.9	3.6	4.9	4.9	4.3	3.4	3.5
Central America &								
Caribbean	..	2.6	3.1	4.1	4.2	3.4	4.1	
Developed Countries	..	5.0	5.6	6.1	5.7	5.2	4.9	4.8
Developing Countries	..	..	2.8	..	3.5	3.2	3.4	
High Income Countries	..	5.0	5.5	6.0	5.7	5.1	4.8	4.7
Low Income Countries	..	2.6	3.2	2.8	3.2	3.4	3.3	3.2
Middle East & North								
Africa	..	4.0	3.8	..	4.9	4.8	4.7	
Middle Income Countries	..	..	..	..			3.7	
World	..	3.5	3.7	3.8	4.1	3.9	4.4	4.6

Source: World Development Indicators, World Bank. http://earthtrends.wri.org/text/ECN/variables/643.htm

Table 4-13 Educational expenditures in Southeast Asia

	GDP/capita (PPP US$)	Public expenditures on education as a percent of GNP			Public expenditures on education as a share of total government expenditures		
Country	**1999**	**1986**	**1990**	**1996**	**1986**	**1990**	**1996**
Singapore	20,767	3.9	3.0	3.0	11.5	18.2	23.4
Malaysia	8,209	6.9	5.5	5.2	18.8	18.3	15.4
Thailand	6,132	3.4	3.6	4.8	17.9	20.0	n.a.
Philippines	3,805	2.1	2.9	3.2	11.2	10.1	17.6
Indonesia	2,857	0.9	1	1.4	4.3	n.a.	7.9
Vietnam	1,860	n.a.	2.1	2.9	n.a.	7.5	n.a.
Laos	1,471	0.5	2.5	2.5	6.6	n.a.	10.3
Cambodia	1,361	n.a.	n.a.	2.9	n.a.	n.a.	n.a.
Myanmar	1,027	1.9	n.a.	1.2	n.a.	n.a.	14.4
Japan	24,898	n.a.	3.6	3.6	n.a.	10.4	9.9
Hong Kong	22,090	2.5	2.8	2.9	19.8	17.4	17.0
South Korea	15,712	3.8	3.5	3.7	n.a.	n.a.	17.5
China	3,617	2.3	2.3	2.3	11.1	12.8	12.2

Source: UNESCO, in Sjöholm (2002).

Considering the low expenditures that Indonesia had on education could signal two aspects. Firstly it could mean that Indonesia had a low quality of education. However, the empirical evidence on this premise does not fully explain this. Some would say that pouring money into education would not solve the problem of low quality, as without proper system and control, the money would be just wasted due to corrupt practices.[138] World Bank (2001: 9) has noted that "Research over the past decade has consistently found that education spending is necessary but not sufficient for educational progress".

[138] For some example on the recent case of corruption relating with education grants from international donor communities refer to Baines (2004).

Excessive spending on education can also be damaging to the society, such that it could lead to a phenomenon known as 'education fever'[139] as recently happened in the Republic of Korea (ROK). The 'education fever' has also been part of the Korean top political agenda, even requiring the President of ROK himself to announce that his government would "free young people from extra-curricular activities and relieve parents from the heavy monetary burden of private tutoring" (Yi 2002: 2 quoted in Bray 2003: 60).

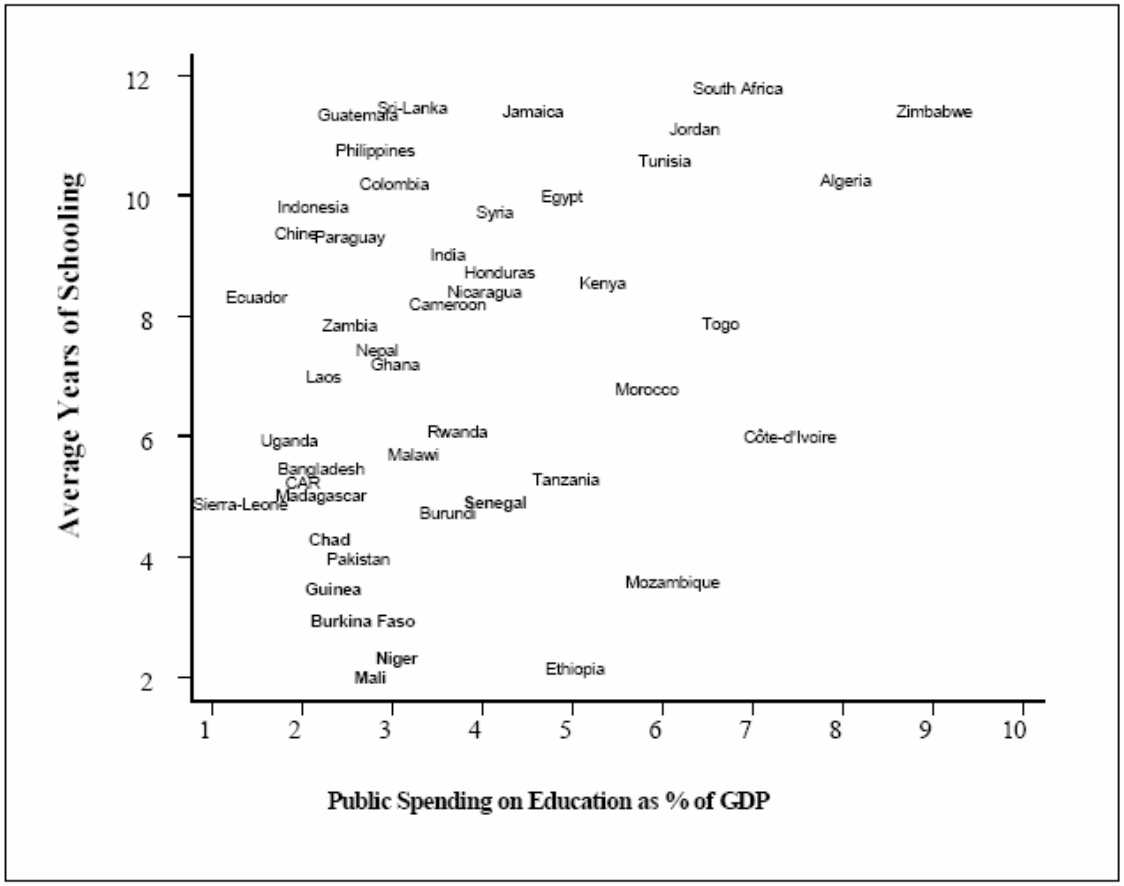
Nevertheless, some empirical research do suggest that the increase in expenditures, would contribute to improvements in education quality (see Figure 4-4, especially for the developed economies such as Korea, most probably in order to achieve the status of 'knowledge economy')[140].

The high expenditures on education, as such, should be interpreted carefully. The dynamics of the employment supply and demand process in developing countries tends to expand educational spending beyond the socially optimum level. In most developing countries, wages in the modern sector are much higher in the traditional sector, which creates a very strong demand for jobs in the former. Entry into the modern sector depends initially on the level of completed education, creating, in turn, an equally strong demand for education. At the same time rapid population growth over a long period produce more workers that can be absorbed by the economy. Under such conditions, employers tend to select workers according to educational level, with, for

[139] Education fever can be narrowly defined as "parental zeal or passion for providing their children with better chances for admission into prestigious universities"(Lee 2005: 99).
[140] OECD (2000 :9) noted thar "Many Asian economies – including Korea, Singapore, Chinese Taipei, Malaysia, Thailand and China – have weathered the financial crisis of 1997-98 only to face the challenge of developing into knowledge-based economies in order to remain competitive. For a comparison of Malaysia's and Indonesia's attempt to pursue a knowledge society refer to Evers (2003).

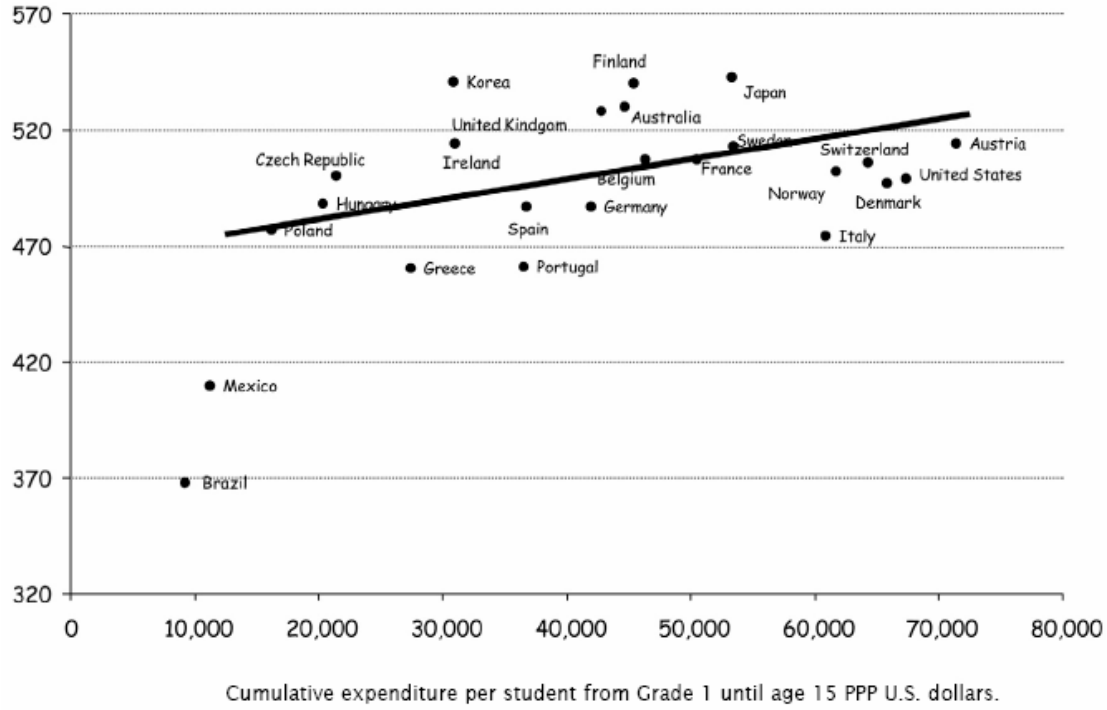
example, by selecting workers who have completed primary education filling jobs that can be performed satisfactorily by those with no primary schooling. As a consequence, individual workers safeguard their positions by acquiring a higher level of education, which in turn increases the demand for each level of education (Lee 1996 : 149-150).

Figure 4-6 Average Years of Schooling by Public Spending on Education



Source: Tan et al, 2001: Enhancing Human Development in the HIPC/PRSP Context in World Bank (2001).

Figure 4-7 Relationship Between Average Performance (Reading, Maths, Science) and Average Spending Per Student



Source: PISA report, OECD, 2001a, Figure 3.7b, p.91 in World Bank (2001).

4.4 Indonesia's Family Life Survey (IFLS) Data Analysis[141]

The National Examination (EBTANAS)[142] score (total and score on math) will be used to assess the quality of education in the provinces covered by the IFLS survey for primary (*Sekolah Dasar*-SD), junior secondary (*Sekolah Menengah Pertama*-SMP), and senior-secondary (*Sekolah Menegah Atas*-SMA) level. One apparent tendency is that the score on Math tend to decrease as the level of education increases.

[141] For a short description on the IFLS data, refer to the appendix.
[142] EBTANAS an acronym for Evaluasi Belajar Tahap Akhir Nasional (could be translated literally as 'National Final Exam') was a national examination system for students as a requirement for graduation in the primary (SD), junior secondary (SMP) and senior secondary (SMA) level of schooling.

The highest score occurred in Yogyakarta (Central Java) and the lowest is in Palembang (Sumatra). In general, the EBTANAS score is higher in the Java region, compared with Sumatra and Eastern region.

Table 4-14 EBTANAS Score

		Sumatra (west)	Java (central)	Eastern
SD	Mathematics score	5.505	6.184	5.415
	Total score	30.515	32.546	29.575
SMP	Mathematics score	4.58	5.096	4.2325
	Total score	32.21	34.776	32.07
SMA	Mathematics score	4.2825	4.588	3.7625
	Total score	32.1925	32.858	31.1825

Source: Calculated from IFLS by the author.

In terms of education expense incurred by students in primary level, registration fees and tuition fees (SPP) are the two main components of cost of schooling. In terms of education expenses, again the Java region has the highest level of education expenses. A complete description of the school costs in the elementary and secondary schooling is given in Table 4-15 to 4-17.

Table 4-15 Education Expense Incurred by Students 1997, SD

	Sumatra (west)	Java (central)	Eastern
Sum of income Principal	461,025	493,931	506,031
New student fees: Registration	11,077	24,174	11,666
New student fees: SPP/POMG etc	23,264	33,456	18,784
New student fees: Tests	1,203	4,511	3,651
Continue student fees: Registration	1,019	883	52
Continue student fees: SPP/POMG etc	24,103	1,698,906	18,817
Continue student fees: Tests	1,796	4,962	4,512
Supplies: Books, writing materials	20,822	42,592	16,207
Supplies: Uniforms	17,404	27,685	11,765
EBTANAS	4,347	12,185	2,186
Extra-curricular activities	2,519	2,055	4,918
Magazines	557	1,408	433
Other	669	856	2
Irregular contribution	10,000	68,397	608

Source: Calculated from IFLS by the author.

Table 4-16 Education Expense Incurred by Students 1997, SMP

	Sumatra (west)	Java (central)	Eastern
Sum of income Principal	445,059	480,246	460,460
New student fees:			
Registration	17,128	64,932	18,348
New student fees:			
SPP/POMG etc	41,615	75,408	39,848
New student fees: Tests	5,545	10,853	4,137
Continue student fees:			
Registration	2,967	5,279	786
Continue student fees:			
SPP/POMG etc	39,986	2,073,914	37,394
Continue student fees:			
Tests	6,124	11,207	3,883
Supplies: Books, writing materials	50,910	74,957	31,201
Supplies: Uniforms	30,896	50,609	21,417
EBTANAS	12,169	2,104,239	7,823
Extra-curricular activities	4,945	4,580	1,501
Magazines	2,761	1,214	345
Other	366	389	0
Irregular contribution	2,433	20,462,712	14,535

Source: Calculated from IFLS by the author.

Table 4-17 Education Expense Incurred by Students 1997, SMA

	Sumatra (west)	Java (central)	Eastern
Sum of income Principal	479,161	505,201	541,956
New student fees: Registration	31,672	125,681	39,211
New student fees: SPP/POMG etc	82,782	140,158	75,028
New student fees: Tests	10,329	16,292	7,210
Continue student fees: Registration	4,202	10,244	5,952
Continue student fees: SPP/POMG etc	5,766,530	138,243	10,489,134
Continue student fees: Tests	12,613	17,442	10,681
Supplies: Books, writing materials	55,994	78,106	41,694
Supplies: Uniforms	52,222	64,296	34,410
EBTANAS	21,453	31,006	15,702
Extra-curricular activities	6,526	8,555	3,175
Magazines	776	1,287	172
Other	402	13,326	860
Irregular contribution	24,334	38,802,885	15,000

Source: Calculated from IFLS by the author.

For household expenses, registration fee, school fee, and transport costs represent the main expenses for schooling. Again the Java region represents the region with the largest household expenses for schooling.

Table 4-18 Household Expenses for Schooling, 1997

	Sumatra (west)	Java (central)	Eastern
Registration fee	83,889	228,736	87,304
School fee	115,807	277,155	104,044
Exam fees	23,725	55,755	31,432
Books/school supplies	63,094	92,465	51,902
Uniform/sport fees	44,492	41,079	37,889
Transport costs	127,901	194,857	120,725
Housing/food costs	162,590	354,048	165,500
Special course costs	83,900	120,518	84,827
Other school expenses	32,699	68,355	12,397

Source: Calculated from IFLS by the author.

The share of household expenditure on education in Indonesia is actually quite low, with only 14% as the highest share of education expenditures. The regions with the highest figure are Jakarta and Yogyakarta, while the lowest are South Sulawesi and South Kalimantan.

Table 4-19 Share of Education Expenditures from Total Household Expenditures

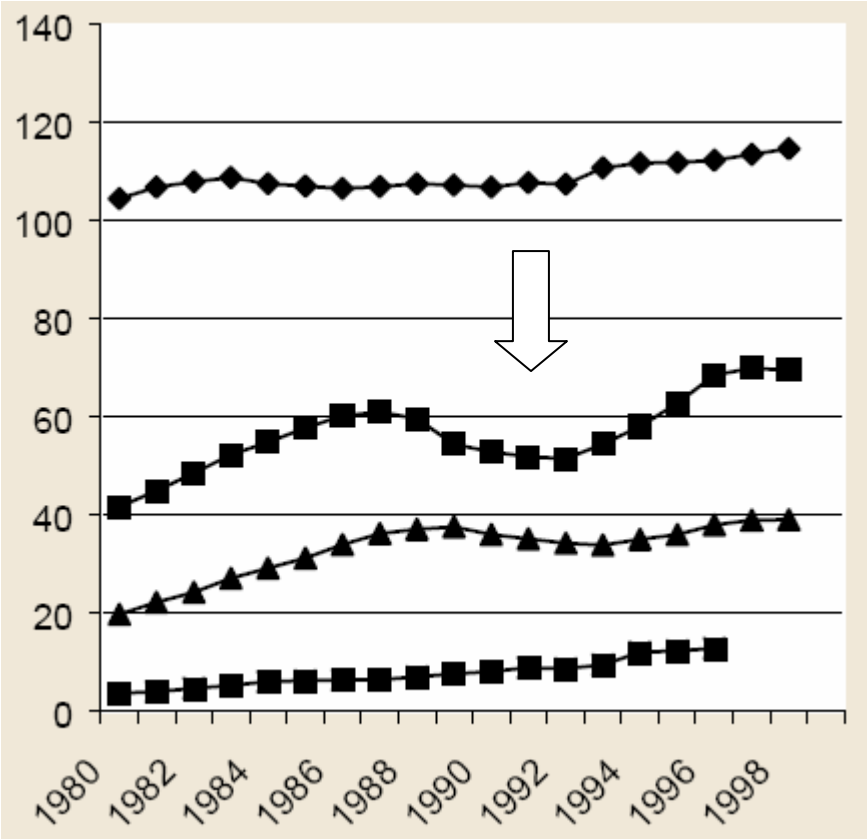
Region	Total Expenditures	Education expenditures	%
North Sumatra	4,372,668	410,231	9.38%
West Sumatra	5,213,702	455,441	8.74%
South Sumatra	4,918,186	374,603	7.62%
Lampung	3,905,356	267,517	6.85%
Jakarta	8,686,899	1,170,920	13.48%
West Java	5,040,520	461,242	9.15%
Central Java	4,552,758	360,458	7.92%
Yogyakarta	3,833,343	429,325	11.20%
East Java	2,867,998	248,453	8.66%
Bali	4,467,371	298,918	6.69%
West Nusa Tenggara	3,575,751	295,681	8.27%
South Kalimantan	4,449,171	273,716	6.15%
South Sulawesi	3,894,349	197,130	5.06%

Source: Calculated from IFLS by the author.

4.5 Education and Employment during the Structural Transformation

After receiving a boost from the SD Inpres program, the educational sector in Indonesia was dampened by the economic downturn resulting from the drop in oil price in 1986/87. It seems that 'oil' affects many of the development progress of the Indonesian nation. The impact was mostly felt at the lower secondary level, as the primary level still benefited from the 'left-over' from the SD Inpres program. The economic downturn, sadly, has greatly affected the poor families whose children attended the secondary level and those attending the private school (Jones, G.W., Hagul, P. and Damayanti 2000: 2-3).

Figure 4-8 The drop in Gross Enrollment Rate (%) started in 1986/87



Source: Jones, G.W., Hagul, P. and Damayanti (2000).

Jones et.al. (2000: 3) wrote:

> Government educational expenditures fell, both as a per cent of GDP - from 4.13 percent in 1985 to about 2.6 per cent in the years 1989-91 and as a share of total government spending. The public subsidy of schooling declined substantially, and schools reacted by asking parents to pay higher fees…These put lower secondary education out of reach of many poor families, and this was exacerbated by the fall in some household incomes over the period between 1989 and 1993.

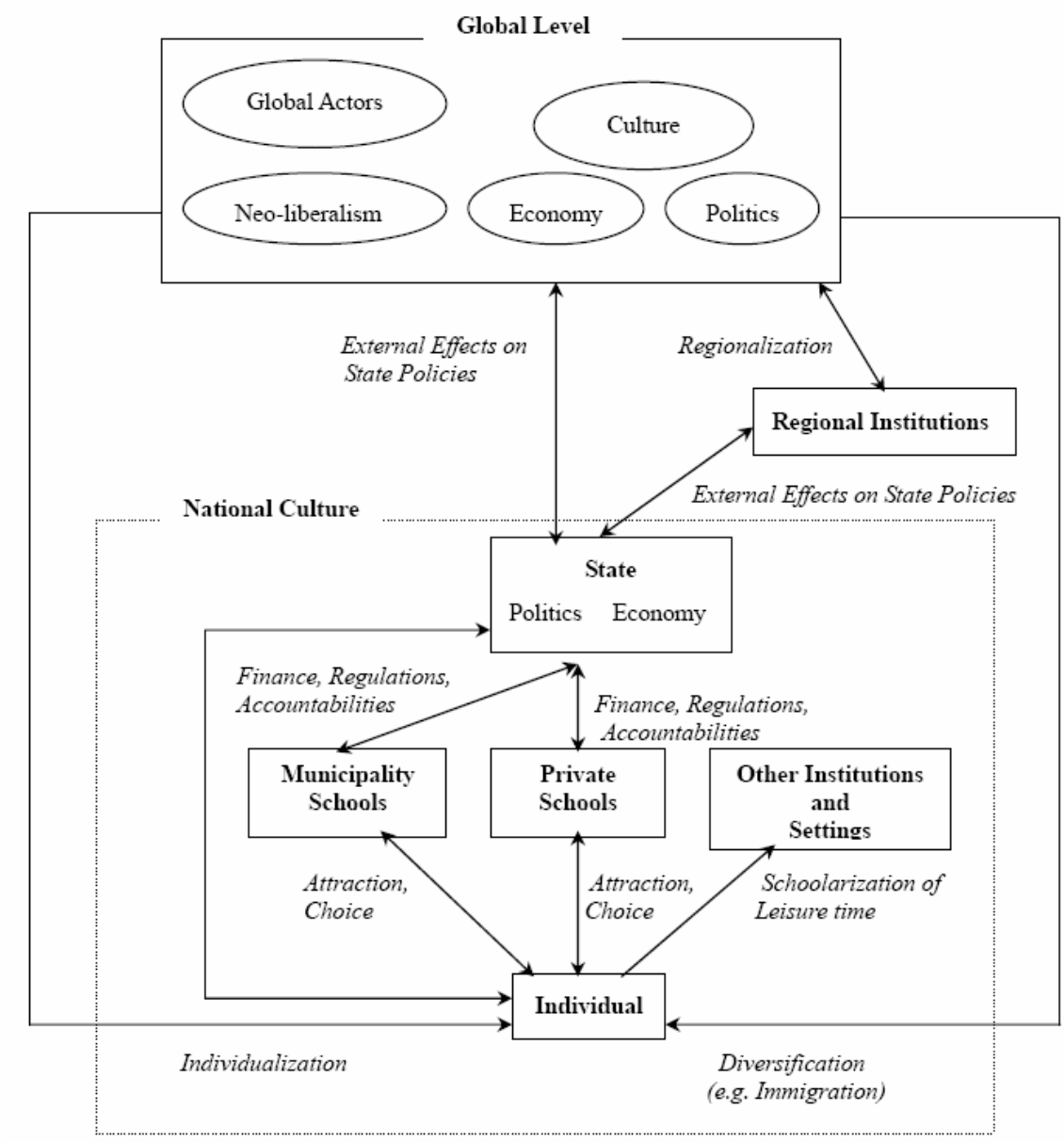
Additionally, Lewin and Caillods (2001: Chapter 1) quoted in Jones (2003: 6) wrote:

> For countries which aspire to take full advantage of the opportunities of economic growth afforded by globalization, and to avoid its adverse side effects, then, expansion of lower secondary education has become crucial. Primary schooling alone cannot provide the insights, skills and competencies needed. (underline emphasized added)

It seems that the expansion of lower secondary education is seen to be crucial in order for the economic growth in Indonesia to continue. It is interesting to note the underlined words in the above quote. It represents a widely believed dogmatic view that globalization (a.k.a. free international trade[143]) is the way out for underdeveloped countries to break out from its current devastating conditions. The far-reaching influence and domination of globalization (which is gained through capitalism) above national agenda and perspectives has its own problematic issue. It could make the domestic school lose its own 'national identity' and merely creating schools as one among other institutions to serve the needs of capitalism or the business world. Figure 4-9 describes the channels through which globalization could penetrate into the domestic schools.

[143] The principle of free-trade following the comparative-advantage paradigm has been the major principle governing the current world order. The Economist magazine wrote in 7 December 1996: "'Free trade', wrote Richard Cobden in 1857, 'is God's diplomacy, and there is no other certain way of uniting people in the bonds of peace.' Few politicians since Cobden have thought of themselves as missionaries for free trade. Yet now, an odd thing is happening: most of the world's governments claim to be exactly that."

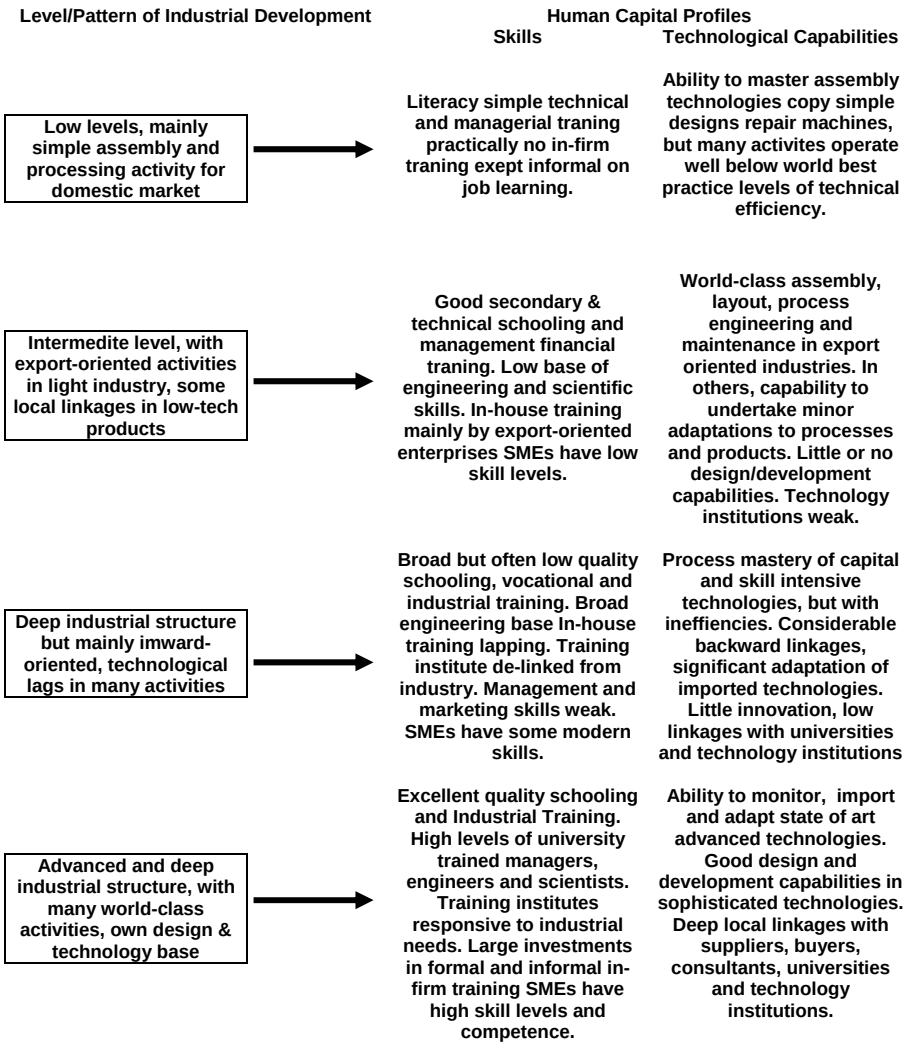
Figure 4-9 Links between the Global Level and the Individual Level



Source: Okuma-Nyström (2004).

The education and skills of workers is actually a valuable input in the economic and industrialization development. As a country becomes industrialized, it would need an upgraded skills and education from its workers. Lall (1998) provided the direct linkage between human capital and industrial development patterns in figure 4-10.

Figure 4-10 Human Capital and Industrial Development Patterns



Source: Lall (1998).

The human capital factor becomes much more important as we have mentioned above how the economic growth in Malaysia and Indonesia is actually foreign-investment driven as both countries liberalize and perform a massive deregulation effort in the 1980s. As Monge-Naranjo (2002: 5) noted that there is a "strong, positive relationship between the schooling (general human capital) of the countries with the amount of FDI that the country ends up attracting".

To further assess the impact of education on economic growth in Indonesia, it is necessary to look at the changes in employment structure and poverty. A smoother transition from rural to industrial structure would require a concurrent transformation in the education and skills of labor inputs. Although education increases skills, the impact on the income of the poor depends on whether their particular skills were valued within the economy (Hunter 1994). A concurrent transformation both in the industrial and employment structure would ensure a more equitable growth.

In Malaysia, the employment restructuring pursued by the NEP basically succeeded. The number of Bumiputera (Malays and other indigenous people) working in the industrial sector in Peninsular Malaysia increased dramatically from 173,000 in 1970 to 918,000 in 1990. Poverty eradication was also impressive[144]. Urban poverty has been virtually eliminated and rural poverty is shrinking rapidly in Malaysia mainly because of growing opportunities for non-agricultural work. (Snodgrass 1995: 10)

Though Indonesia managed to cut the poverty level in half from 1976 to 1981, significant difficulties started to develop in 1990 (refer to Table 4-20)- the reduction level in poverty has been slow since then. While poverty reduction had never been explicitly identified as a development objective in Soeharto era, during the first Long Term Development Planning (*Pembangunan Jangka Panjang*-PJP) PJP-I/PELITA I – PELITA V (1970 to 1994), this was not the case in PELITA VI/PJP-II. For the first time, the government set explicit targets for reduction and eventual total elimination of poverty by the end of PELITA VII (2004).

[144] However Guan (2000: 19) noted that because inequality was predominantly historically constructed in ethnic terms, poverty eradication policy became identified primarily with rural Malay poverty. This has led to the formulation and implementation of poverty eradication programs that largely only benefited the rural Malay poor. The non-Malay poor hence were largely neglected in the government poverty

Table 4-20 Indonesia: Economic Growth and Poverty Condition in Indonesia Prior to the 1997 Crisis

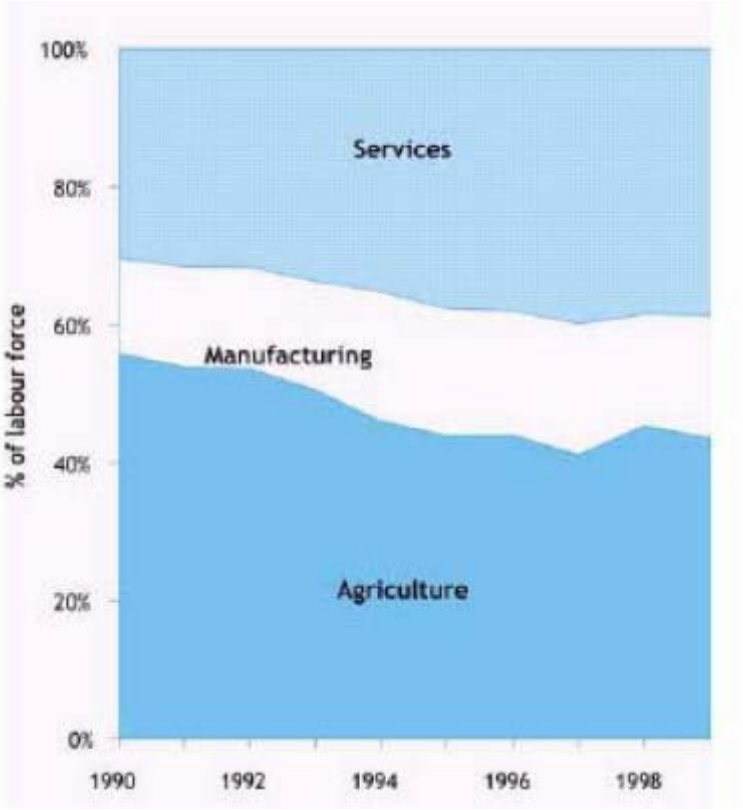
Year	Average Rate of Economic (GDP) Growth %	Number of Poor People						Average Rate of Poverty Decline %
		Urban		Rural		Total		
		(Million)	%	(Million)	%	(Million)	%	
1976		10.0	38.8	44.2	40.4	54.2	40.1	
1981	4.68	9.3	28.1	31.1	26.5	40.6	26.9	(2.64)
1984	4.55	9.3	23.1	25.7	21.2	35.0	21.6	(1.77)
1985	2.02	9.7	20.1	20.3	16.4	30.0	17.4	(4.20)
1990	7.2	9.4	16.7	17.8	14.3	27.2	15.08	(0.46)
1993	6.5	8.8	13.4	17.2	13.8	25.9	13.67	(0.47)
1996	7.9	6.9	10.1	15.7	12.6	22.6	11.39	(0.76)

Source: Tjiptoherijanto (1997) in Canada-Southeast Asia Project Team (2000).

While for employment transformation, despite the shift towards manufacturing industries, agriculture still remained a vital source of employment in Indonesia (refer to Figure 4-11). Throughout the 1980s agriculture continued to employ over 50% of the population. Only by the end of the 1980s, that agriculture's share began to fall – from 55% in 1985 to 50% in 1990 and to 44% by the late 1990s – supported with the rise of labor-intensive manufacturing industry.[145] Even in the manufacturing level, the share of employment generally absorbed by the SMEs rather than the big firm.

eradication policies and were left to fend by themselves.
[145] Indonesia Human Development Report 2001, Chapter 3, UNDP.

Figure 4-11 Indonesia: Employment by sector



Source: Irawan et al (2000) in UNDP (2001).

Table 4-21 The Distribution of Employment Shares Across Plant Sizes

	Number of Workers					
	1-4	*5-9*	*10-19*	*20-49*	*50-99*	*>99*
United States, 1992[a]	1.3	2.6	4.6	10.4	11.6	69.4
Mexico, 1993[b]	13.8	4.5	5.0	8.6	9.0	59.1
Indonesia, 1986[c]	44.2	17.3		38.5		
S. Korea, 1973[d]	7.9	22.0			70.1	
S. Korea, 1988[e]	12			27		61
Taiwan, 1971[c]	29.1				70.8	
Taiwan, 1986[f]	20			29		51
India, 1971[g]	42		20		38	
Tanzania, 1967[g]	56		7		37	
Ghana, 1970[g]	84		1		15	
Kenya, 1969[g]	49		10		41	
Sierra Leone, 1974[g]	90		5		5	
Indonesia, 1977[g]	77		7		16	
Zambia, 1985[g]	83		1		16	
Honduras, 1979[g]	68		8		24	
Thailand, 1978[g]	58		11		31	
Philippines, 1974[g]	66		5		29	
Nigeria, 1972[g]	59		26		15	
Jamaica, 1978[g]	35		16		49	
Colombia, 1973[g]	52		13		35	
Korea, 1975[g]	40		7		53	

Notes: a/source: 1992 United States Census of Manufacturing, unpublished Census Bureau calculations, b/source: INEGI (1995), c/source: Steel (1993), d/source: Little et al (1987, Table 6.5), e/source: 1988 Census of Manufacturing, Republic of Korea, calculations of Bee-Yan Aw, f/source: Chen (1997, table 2.4), g/source: Liedholm and Mead (1987), quoted in Tybout (2000).

While for the working population, even in 1996, the majority of labor force only received primary level (or below) education. The urban location generally has a better human capital quality in terms of formal education received than the rural areas (refer to Table 4-22). It seems this could point out the 'dualism' (traditional versus modern, primitive versus developed) that also existed in the Indonesian labor force, as well as it has existed in the Indonesian economy. Additionally, the wage received by the agriculture sector seems to be the lowest among other sectors (Table 4-23). Again, this notion has reinforced the 'dualism' phenomenon in the labor market.

Table 4-22 Percentages of Working Population by Level of Education, Location (Urban & Rural), and Sex (M/F), 1986 and 1996

	Urban				Rural				Total			
	1986		1996		1986		1996		1986		1996	
	M	F	M	F	M	F	M	F	M	F	M	F
1 No Schooling	6.0	17.1	2.3	7.4	15.2	29.8	9.1	18.9	13.2	27.7	6.8	15.1
2 Primary School Drop-out	15.3	21.7	9.5	13.6	33.2	34.4	23.0	27.0	29.3	32.3	18.4	23.0
3 Primary School	31.2	28.6	28.0	30.0	38.1	29.1	44.9	40.3	36.6	29.0	39.2	37.2
4 Junior High School	8.0	9.4	8.4	13.9	7.5	3.6	12.2	7.7	8.1	5.0	14.3	9.5
5 Senior High School	24.5	17.6	33.0	27.2	5.3	2.8	9.6	5.9	9.5	5.3	17.5	12.3
6 Community College/ University	5.1	3.1	8.8	7.9	0.7	0.3	1.2	0.7	3.3	0.7	3.8	2.9
Total (1000 person)	9082	4526	7832	9820	3236	22371	3515	22892	41441	26897	52990	32712

Note: M = Male F = Female, Adapted from: Baharsjah, Justika S., 1997. Proceedings of Workshop on Women Empowerment, Through Agribusiness Development in Rural Areas Indonesian Agronomist Association Source: Central Bureau of Statistics, 1989, 1997 quoted in Sulaiman and Gasim (1998).

Table 4-23 Labor Wage Average (Rp/month) in Indonesia 1980-2002

		1980		1985		1990		1997	2002
		min	max	min	max	min	max		
1	Agriculture	**17,606**	**191,411**	**38,688**	**320,979**	**100,590**	**758,043**	**106,535**	**294,679**
2	Mining	**60,069**	**448,725**	**95,296**	**690,147**	**218,241**	**1,979,561**	**296,630**	**na**
3	Manufacturing or Industry	**42,137**	**496,738**	**83,291**	**798,678**	**171,957**	**1,856,189**	**192,837**	**593,944**
4	Electricity, Gas, and Water	**21,050**	**231,719**	**60,901**	**517,672**	**105,751**	**683,794**	**300,667**	**na**
5	Construction	**29,105**	**370,994**	**53,129**	**635,598**	**221,240**	**1,188,131**	**209,975**	**549,261**
6	Trading	**42,112**	**361,254**	**90,117**	**724,383**	**227,611**	**1,442,426**	**208,823**	**582,515**
	Finance	**na**	**Na**	**na**	**na**	**na**	**na**	**431,704**	**1,062,307**
7	Transportation	**41,972**	**382,665**	**85,724**	**612,592**	**133,671**	**1,047,077**	**262,169**	**723,109**
8	Services	**33,270**	**322,330**	**71,597**	**441,213**	**157,585**	**1,121,810**	**237,624**	**785,904**
	Others	**na**	**Na**	**na**	**na**	**na**	**na**	**230,607**	**953,386**

Source: Ministry of Labor, GOI (1992: 37-38, 2003: 165).

4.6 Concluding Remarks

The evolutionary process of the education sector in Indonesia seems to follow the pattern of the political nature of the state. In Indonesia, the education sector seems to be marginalized and only being subverted by political motives of the state. Political

support is crucial in developing a vibrant and strong education sector. As such the state's interest on developing the education sector seems to depend on the political willingnes of the state and the amount of budget available. The nature and type of state's policy in education also depends on the developmental paradigm of the national government. When Soeharto took over power, his 'developmental state' paradigm created a rather secular system of education despite the existence of strong religious traditional schooling in the society. Also Soeharto's effort in eradicating poverty has gives a 'windfall profit' for primary education, as it being developed marveolusly during the oil boom period.

Chapter 5

Role of Education in the Macroeconomics of Growth in Indonesia

The direct impact of education would be related with the labor sector[146]. Simple Solow neoclassical growth model, like Y=f(K,L) or more specifically the Cobb-Douglas production function[147] has been widely used to asses the quality of growth, whether it was simply an 'input-driven' growth, where economic growth was simply a process of accumulation of factors of production (capital and labor), or whether it was a 'productivity-driven' growth, where growth resulted from 'total factor productivity', from 'augmented-labor' or 'augmented-capital'.

Paul R. Krugman, an economist from Stanford University, was one of the scholars that uses the 'total factor productivity' framework in analyzing the so-called 'East-Asian miracle'. Contrary to the popular opinion at that time, Krugman, by referring to Alwyn Young's work, stated that the fantastic growth of East Asia was simply due to the massive input that it received, Krugman (1994: 76) wrote:

[146] Gary S. Becker (1991) concept of 'human capital' also (at least at the beginning) only relates with 'education' in terms of 'training' of the labor force.
[147] Where Y=Output or Gross Domestic Product, K=Capital, L=Labor. This model is also considered as a supply-side model of growth.

> …the remarkable record of East Asian growth has been matched by input growth so rapid that Asian economic growth, incredibly, ceases to be a mystery.

In analyzing Soviet growth, Krugman (1994: 63) wrote that:

> The rapid growth in output could be fully explained by rapid growth in inputs: expansion of employment, increases in education levels, and, above all, massive investment in physical capital. Once those inputs were taken into account, the growth in output was unsurprising--or, to put it differently, the big surprise about Soviet growth was that when closely examined it posed no mystery.

Krugman also mentions the dualism of economies in East Asia (following Arthur Lewis[148] concept of dualism), where the release of labor (partially) employed in agriculture basically provides and analogous with an increase in the labor force. This is pointing to the signs of an unbalanced-growth pattern.[149]

The Solow growth model and Krugman's article also points to the work of Edward F. Denison (1962) on growth accounting, and more recently on the work of Pierre van der Eng (1994, 1999).

As such this chapter would attempt to assess the role of education using the method used by the scholars mentioned above. One of the reasons in applying the above method compared with others is that the method proposed by the scholars (except for those proposed by Gary S. Becker and Robert Solow to some extent) is relatively simple and yet provide a relatively powerful and convincing argument.[150]

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[148] In the Lewis Model it is implicitly assumed that the labor force in the rural sector is homogenous and that rural-urban migration was not influenced by the prevailing socio cultural structure of the economy (Dubey, et.al. 2004).

[149] Similar conclusion regarding the unbalanced-growth property of Indonesia also reached by Temple (2001).

[150] Following the 'Ockham's razor' and 'Galileo's knife' principle (Calne 1999: 28).

In this chapter, the basic Solow model will be applied to the Indonesian case, using national aggregate data. Firstly, we will consider the simple two factor model of growth consisting of capital (K) and labor (L). Secondly, in order to assess the direct relationship of education (through the workforce) we will use a three factor model of growth by adding the human capital (H) factor.

Additional focus is given to Total Factor Productivity (TFP) or Solow Residual, because education or human capital is perceived to produce positive (social) externalities that most probably provides a significant component of TFP in growth models. As Marshall (1920) quoted in Lange and Topel (forthcoming) noted:

> Marshall emphasized the social benefits of valuable ideas, which are public goods and, he implies, are more likely to be produced by the highly educated. "..[F]or one new idea, such as Bessemer's chief invention, adds as much to England's productive power as the labor of a hundred thousand men. …All that is spent …[in educating the masses] would be well paid for if it called out one more Newton or Darwin, Shakespeare, or Beethoven." Principles of Economics, 8th Edition, (1920).

Of course, because of the rather weak links and immeasurable nature of human capital, some scholars like Spence (1974) quoted in Lange and Topel (forthcoming) which considers schooling to act only 'as a signal of private information about individual productivities, for which employers are willing to pay, though it does not raise anyone's productivity'.

5.1 Limitations of the Model

Firstly, a major problem with highly aggregated economic data is that it masks the magnitude and even the nature of the allocational changes going on. However, if we would like to capture the externalities of each factor of production and the overall performance of the economy the aggregation is unavoidable. As such, a longer time

series is required to give a more reliable estimation. In addition a longer time series would also enable us to asses the long-run effect of education and capital to growth.

If we only focus on certain time period, it is possible that because a factor of production has not reached its diminishing return, it would have higher productivity. By focusing more on a longer time period we could asses whether an economy has shifted its production function to avoid diminishing return (an increase in technical progress or TFP), or remain on the same production function such that diminishing return would occur in the end.

Secondly, the use of Cobb-Douglas production function to estimate the separate contributions of the three sources to output growth has certain limitation, even if the correct method has been used to obtain α, β and γ. That is, the contribution of technical progress is obtained only as a residual. In cases where technical progress is estimated in this way to contribute to output growth, this is clearly not a satisfactory method of arriving at its contribution, especially as the estimate will also incorporate errors in the measurement of capital and labor (Lim 1996: 56-57).

Thirdly, the direction of causation is not clear because there are good reasons for believing that it goes from growth to education (e.g. the wealthier the country the more it can afford or appreciate education) or that the causation flows in both directions.

Fourthly, this study uses formal education as a measure of human capital[151], it would then exclude the measurement of learning-by-doing process and other training or informal education.

[151] Leeuwen (2004) call this as the 'educational stock' approach.

Finally the classic problem of data measurement is always unavoidable. The measurement of capital stock and human capital poses weakness in the accuracy and largely depends on the method used to calculate the investment, depreciation rate, and education level.

5.2 Two Factors of Production Growth Model Applied to Indonesia

The model that is going to be used is basically a two-factor neo-classical model of economic growth, with the general form of Y=f(K,L). The structural form of the model could be formulated below:

$$Y = AK^{\alpha}L^{\beta} \tag{1}$$

To simplify the estimation method, equation (1) could be turned into natural log function (or growth function, where "d(lnx)=dx/x") = :

$$\ln Y = \ln A + \alpha \ln K + \beta \ln L \tag{2}$$

The procedure for transforming equation (1) to (2) is given below:

$$f(K,L) = q_i = AL_i^{\beta_1} K_i^{\beta_2} .e^{\varepsilon}$$
$$\ln(q_i) = \ln(AL_i^{\beta_1} K_i^{\beta_2} .e^{\varepsilon})$$
$$\ln(q_i) = \ln(A) + \beta_1 \ln(L_i) + \beta_2 \ln(K_i) + \varepsilon$$

Equation 2 then could be estimated, following that we have the data for Y (GDP), K (capital), L (labor) and H (human capital); with α and β as production elasticities of physical capital and labor. The constant A could be viewed as Solow residual[152]. Y is output measured by GDP, and K is capital and L is labor measured by

[152] This 'Solow residual' often to be referred as 'Total Factor Productivity' and is said to be related with the level of technology, research, knowledge and institutions (Eicher, et. al., forthcoming).

the number of people worked in the period *t*. All of the data is taken from van der Eng.[153]

Table 5-1 GDP, Labor and Capital Stock data, 1952-2002

Year	GDP*	Employment **	Capital stock***	Year	GDP	Employment	Capital stock
1952	19,647	32,584	29,034	**1980**	72,550	51,553	151,896
53	20,624	33,016	31,581	**81**	77,537	53,016	165,975
54	21,910	33,184	33,893	**82**	74,684	54,523	181,942
1955	22,511	33,135	36,231	**83**	77,676	56,362	200,495
56	22,811	33,529	38,684	**84**	83,037	58,266	219,687
57	24,368	34,044	41,206	**1985**	85,082	60,238	236,707
58	23,490	34,619	43,614	**86**	90,080	62,279	253,625
59	24,500	35,298	46,021	**87**	94,518	64,393	271,495
1960	25,539	35,990	47,474	**88**	99,935	66,582	291,697
61	27,214	36,727	49,903	**89**	108,924	68,850	315,176
62	27,184	37,159	52,023	**1990**	118,607	71,570	342,750
63	26,143	37,597	53,440	**91**	124,599	74,013	374,047
64	27,108	38,039	55,109	**92**	137,962	76,286	406,312
1965	27,379	38,485	56,886	**93**	147,448	78,634	440,548
66	27,383	38,940	59,004	**94**	158,169	81,057	479,985
67	26,766	39,395	60,521	**1995**	170,540	83,560	525,364
68	29,376	39,855	62,948	**96**	183,191	86,144	577,669
69	32,992	40,327	65,644	**97**	191,069	88,496	634,786
1970	36,465	40,767	69,497	**98**	166,134	89,117	668,998
71	38,461	41,261	74,276	**99**	166,499	89,743	697,830
72	42,814	42,255	79,609	**2000**	174,322	90,373	731,324
73	49,166	43,308	85,361	**01**	179,557	91,008	767,753
74	51,648	44,389	92,151	**02**	185,732	91,647	803,620
1975	51,657	45,499	99,298				
76	56,208	46,638	108,318				
77	60,591	47,808	117,623				
78	63,356	49,010	128,133				
79	66,804	50,243	139,830				

Note: *Gross Domestic Product (1983 reference market prices, billion rupiahs), **Labor (000), ***billions 1983 Rupiah.
Source:
http://teaching.fec.anu.edu.au/busn2023/Publications/GDP(Q)%20Indonesia%20estimates%201880-2002.xls

The procedure of selecting the model could also followed a more pragmatic approach, focusing more on 'data fit' rather than purely statistical or 'stochastic'

[153] http://ecocomm.anu.edu.au/people/info.asp?Surname=van%20der%20Eng&Firstname=Pierre

principles[154]. The focus here then, is whether the values of α and β are 'reasonable' considering the Indonesian economy narrative presented in the previous chapter. One of the main features of Indonesian economy was its dependence on FDI and thus capital. In addition, as a labor surplus economy, it would be safe to assume that labor was not a constraint for the Indonesian economy to develop.

Using equation (1), the result of the regression estimation is not statistically robust as shown in the box below. Remembering the fact that 'modern' economic growth in Indonesia could be said to start in 1965 after the country stabilized and able to attract FDI; and also to the 1997 economic crisis that has caused a structural shift in Indonesia's GDP growth, we apply equation (1) for Indonesian data in the period of 1965-1997 and yet still get the following insignificant results, with only a capital coefficient having a significant t-statistic.

[154] Indeed, as Tryfos (2004) notes, "the stochastic method dominates the analysis of business and economic relationships in academia and practice" (p.1), and criticise it by saying that "the very large majority of applications a stochastic model rests on no other grounds than faith" (p.14). Tryfos (2004) also argues that the limitations of stochastic model are many and that alternatives to the stochastic model do indeed exist. He proposes to still use the existing regression model without referring to much to the 'statistical' significance or stochastic properties, but with an objective to 'approximate the variable as closely as possible" (p.14), or referred as "the fitting method".

Box 5-1 Regression estimation result, eq.1 (1965-1997)

Dependent Variable: Y
Method: Least Squares
Date: 01/12/07 Time: 12:14
Sample: 1965 1997
Included observations: 33
Estimation settings: tol= 0.00010, derivs=analytic
Initial Values: C(1)=0.00314, C(2)=-0.15352, C(3)=2.39441
Convergence achieved after 643 iterations
Y=C(1)*(K^C(2))*(L^C(3))

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	441.9669	1559.930	0.283325	0.7789
C(2)	0.665914	0.226221	2.943641	0.0062
C(3)	0.223861	0.610828	0.366487	0.7166

R-squared	0.989864	Mean dependent var	8.35E+13
Adjusted R-squared	0.989189	S.D. dependent var	4.74E+13
S.E. of regression	4.93E+12	Akaike info criterion	61.37856
Sum squared resid	7.30E+26	Schwarz criterion	61.51461
Log likelihood	-1009.746	Durbin-Watson stat	0.272943

Applying equation (2) for Indonesian data in the period of 1965-1997 we would get the following result.

Box 5-2 Regression estimation result, eq.2 (1965-1997)

Dependent Variable: LOG(Y)
Method: Least Squares
Date: 01/12/07 Time: 07:08
Sample: 1965 1997
Included observations: 33
LOG(Y)=C(1)+C(2)*LOG(K)+C(3)*LOG(L)

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	17.45857	4.575420	3.815731	0.0006
C(2)	1.342649	0.251687	5.334597	0.0000
C(3)	-1.658143	0.715537	-2.317342	0.0275

R-squared	0.981199	Mean dependent var	31.89616
Adjusted R-squared	0.979945	S.D. dependent var	0.586315
S.E. of regression	0.083031	Akaike info criterion	-2.052708
Sum squared resid	0.206822	Schwarz criterion	-1.916662
Log likelihood	36.86969	Durbin-Watson stat	0.249216

The regression estimation gives the value of α and β equals to 1.34 and -1.66, with all coefficients to be considered statistically sgnificant. The value of α= 1.34 means that a 1% growth of capital would result in 1.34% growth in output.

While a value of β= -1.66 means that a 1% growth of labor would result in a reduction of output growth in the magnitude of 1.66%.

Using GDP per labor instead of GDP, and applied the Indonesian data to the model using the following equation[155]:

$$(Y / L) = A(K / L)^{\alpha} \quad (3)$$

and

$$\ln(Y / L) = \ln A + \alpha \ln(K / L) \quad (4)$$

we would get the following result respectively:

Box 5-3 Regression estimation result, eq.3 (1952-2002)

Dependent Variable: Y/L
Method: Least Squares
Date: 01/12/07 Time: 12:26
Sample: 1952 2002
Included observations: 51
Convergence achieved after 8 iterations
(Y/L)=C(1)*((K/L)^C(2))

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	375.9077	122.5391	3.067656	0.0035
C(2)	0.543250	0.021327	25.47200	0.0000

R-squared	0.938920	Mean dependent var	1242098.
Adjusted R-squared	0.937674	S.D. dependent var	496984.7
S.E. of regression	124073.5	Akaike info criterion	26.33356
Sum squared resid	7.54E+11	Schwarz criterion	26.40932
Log likelihood	-669.5058	Durbin-Watson stat	0.259021

[155] This procedure of 'normalizing' the production function was also done by Pritchett (1999).

Box 5-4 Regression estimation result, eq.4 (1952-2002)

Dependent Variable: LOG(Y/L)
Method: Least Squares
Date: 01/12/07 Time: 12:40
Sample: 1952 2002
Included observations: 51
LOG(Y/L)=C(1)+C(2)*LOG(K/L)

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	5.118179	0.297996	17.17536	0.0000
C(2)	0.596825	0.020118	29.66569	0.0000

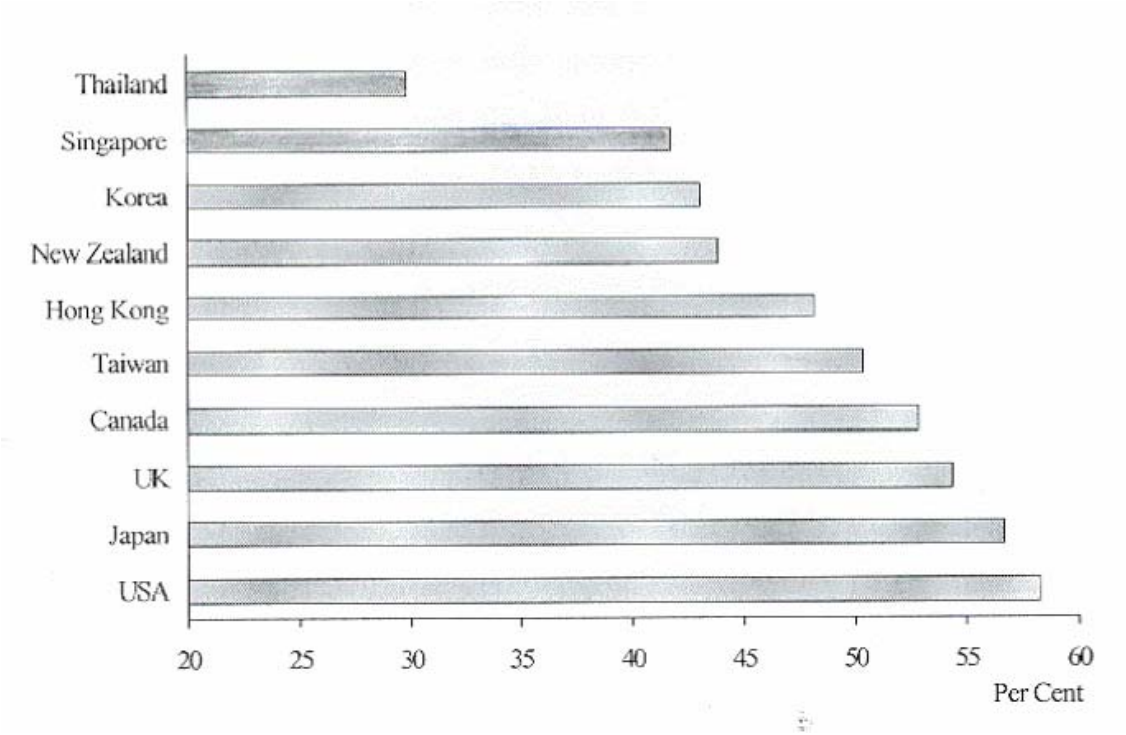
R-squared	0.947258	Mean dependent var	13.94924
Adjusted R-squared	0.946182	S.D. dependent var	0.417987
S.E. of regression	0.096968	Akaike info criterion	-1.790450
Sum squared resid	0.460735	Schwarz criterion	-1.714692
Log likelihood	47.65648	Durbin-Watson stat	0.206011

The value of α (and β) that also could be considered as the fraction of the economy's output that accrues to capital (labor) or the elasticity of changes in capital (capital) affecting output is expected to be around 30% for capital and 70% for labor(in advanced economies). This figure was in line using national income data for the developed economy such as the US[156], however, less true if not contrary with the statistical data available from the East Asian countries. As Soon and Ong (2001: 3) noted:

> Thailand (the only developing country in Asia to publish GDP using the income approach) has, as expected, the lowest remuneration share of 29.9 % (in 1998). The remuneration shares of the Asian NIES are, in general, lower than that of the developed countries, which reflect the competitiveness of their wage structures. Singapore's remuneration share (in 2000) of 42% of GDP is only slightly below Korea's share of 43% (in 1999). Industrial economies in the OECD have relatively high remuneration shares: US (58%), Japan (57%), UK (54%), Canada (53%) and France (53%).

[156] In the US from 1958 to 1996 labor's share of aggregate value-added remained between 65 and 70 percent (Figure 1, Young 2005 quoted in Zuleta and Young 2005).

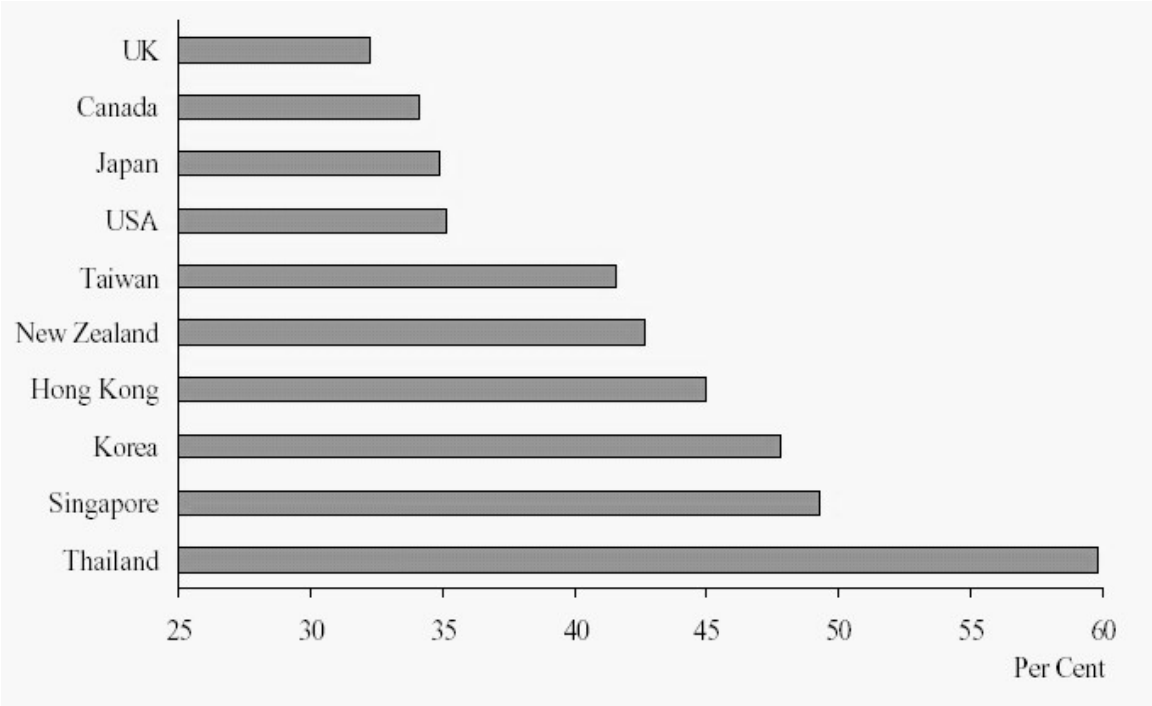
Figure 5-1 Remuneration (wage) share of GDP, various years



Source: Soon and Ong (2001)

As a consequence, the profit share of most East Asian countries are indeed high, as depicted in Figure 5-2, with Thailand reaching around 60%.

Figure 5-2 Profit (capital) share of GDP, various years



Source: Soon and Ong (2001)

Looking at the Indonesian national data, the share of total wage in national income ranges around 30% for the period 1976-2003[157], which is actually similar with other East Asian figures (table 5-2).

[157] Zuleta and Young (2005 :3) regarded this relative stability of aggregate labor's share "constitutes one of the great macroeconomic ratios".

Table 5-2 Share Of Total Wage in National Income – Indonesia

Year	Nominal GDP (Rp bill)	wage (Rp 000)	Self-employed workers (million)	workers in the private sector (mill)	Workers in the government in mill. (incl. military)	total employee (million)	total wage in national income (billion rp)	Wage share in GDP (%)
1976	20224	148.4	31.51	13.76	2.03	47.3	7019.32	35
1977	24859	163.7	31.16	15.07	2.08	48.31	7908.347	32
1978	29743.4	180.6	31.97	17.69	2.12	51.78	9351.468	31
1979	41877.5	228.8	31.9	17.47	2.3	51.67	11822.096	28
1980	59426.3	289.9	31.83	17.42	2.31	51.56	14947.244	25
1981	70647.5	367.4	35.09	17.1	2.4	54.59	20056.366	28
1982	77624.5	465.5	38.69	16.43	2.69	57.81	26910.555	35
1983	93122.7	526.1	40.29	16.04	2.99	59.32	31208.252	34
1984	107833.6	594.6	41.95	15.77	3.15	60.87	36193.302	34
1985	116329.5	672	43.68	15.46	3.32	62.46	41973.12	36
1986	123186.5	759.4	50.76	14.02	3.56	68.34	51897.396	42
1987	149740.7	820.7	51.71	14.89	3.8	70.4	57777.28	39
1988	170480.7	856.1	53.4	15.19	3.93	72.52	62084.372	36
1989	200568.6	926	53.64	15.73	4.06	73.43	67996.18	34
1990	234654.6	1076.1	54.77	16.91	4.17	75.85	81622.185	35
1991	273439.5	1219.8	54.05	18.03	4.34	76.42	93217.116	34
1992	311778.9	1391.4	55.5	18.61	4.41	78.52	109252.728	35
1993	362325.5	1721.9	54.74	20.01	4.44	79.19	136357.261	38
1994	419945.8	1888.1	54.97	22.65	4.42	82.04	154899.724	37
1995	499375.8	2259.9	55.2	24.21	4.49	83.9	189605.61	38
1996	585133.9	2485.3	56.75	24.41	4.55	85.71	213015.063	36
1997	689650.6	2888.8	56.56	25.76	4.51	86.83	250834.504	36
1998	1050088.9	3387	58.87	24.24	4.57	87.68	296972.16	28
1999	1208278	4163.4	59.43	24.81	4.57	88.81	369751.554	31
2000	1389769.5	5162.4	60.15	25.16	4.51	89.82	463686.768	33
2001	1684280.5	6371.9	64.23	22.08	4.5	90.81	578632.239	34
2002	1897799.9	7197.2	63.81	23.44	4.4	91.65	659623.38	35
2003	2086757.7	8070.3	64.25	22.43	4.11	90.79	732702.537	35

Source: Calculated from data from the Central Agency of Statistics.

Other estimation by Sigit (2004) yields higher albeit similar estimates for employment income share in Indonesia, as can be seen in Table 5-3.

Table 5-3 Estimates of labor income share in GDP

Year	Employment income/ worker	Growth of average employment income	No. of employed	Estimated employment income	GDP current prices	Employment income share
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1975	115.6		45522.8	5263.0	12870.1	40.89
1976	134.4	1.1626	47306.2	6358.5	15884.3	40.03
1977	156.3	1.1626	49089.6	7671.1	19695.1	38.95
1978	181.7	1.1626	50940.3	9254.6	22955.9	40.31
1979	211.2	1.1626	52860.8	11165.1	33754.8	33.08
1980	245.6	1.1626	54856.6	13470.6	48217.9	27.94
1981	285.5	1.1626	56831.4	16224.7	57916.9	28.01
1982	331.9	1.1626	58875.1	19541.2	64171.0	30.45
1983	385.9	1.1626	60788.5	23456.9	77622.8	30.22
1984	448.6	1.1626	62764.2	28157.3	90712.0	31.04
1985	521.6	1.1626	64816.7	33806.2	98781.6	34.22
1986	606.4	1.1626	66864.9	40545.1	105516.6	38.43
1987	705.0	1.1626	68977.8	48627.3	128261.8	37.91
1988	819.6	1.1626	71157.5	58320.5	148641.6	39.24
1989	950.2	1.1594	73424.9	69771.5	176413.3	39.55
1990	1069.0	1.1250	75412.9	80615.2	208193.7	38.72
1991	1286.7	1.2037	76943.8	99002.5	244190.5	40.54
1992	1421.0	1.1044	78518.4	111578.0	281379.2	39.65
1993	1532.4	1.0784	80323.0	123089.7	329775.9	37.33
1994	1781.6	1.1626	82038.1	146159.7	377354.3	39.15
1995	2115.1	1.1872	83842.9	177340.1	454514.1	39.02
1996	2511.1	1.1872	85701.8	215208.1	532630.8	40.40
1997	2773.3	1.1044	87004.5	241293.0	624337.1	38.65
1998	2773.3	1.0000	85843.8	238074.1	951385.9	25.02

Notes: column 2 in thousand rupiah; columns 3 and 7 in %; columns 4 in thousand persons; columns 5 and 6 in billion rupiah.
Source: Sigit (2004)

Additionally, we must remember that the figures of wage share in the above table probably represents an ‘under-estimated’ in terms of shadow-price or real terms. Most of the workers in Indonesia are categorized as ‘self-employed’ mostly worked in the informal sector, these workers tend to receive lower or even zero nominal wages compared with their counterparts in the formal sector and to work fewer hours.

Another point to take into consideration is that α and β are, technically speaking, a product of two entities[158]. Calculating the marginal product of capital from the equation $Y=AK^{\alpha} L^{\beta}$

$$MP_K = dY/dK = \alpha * A * K^{(\alpha-1)} * L^{\beta} = (\alpha/K)* \{A * K^{\alpha} * L^{\beta}\}$$

$$MP_K = (\alpha/K)* Y = \alpha * (Y/K), \text{ so}$$

$$\alpha = MP_K * K/Y \qquad (5)$$

Using the same derivation,

$$\beta = MP_L * L/Y \qquad (6)$$

While we could define national income (GDP) as the sum of income from labor (W=wages) and rent from capital (R=rent) in the form of

$$Y = K * (R/P) + L * (W/P)$$

In a competitive economy, based on the marginal productivity theory of distribution, the factors of production (capital and labor) are paid according to the value of their marginal product[159], where MP_K= R/P and MP_L=W/P, defining r = R/P and w = W/P then we have

$$\alpha = r * K/Y \qquad (7)$$

and,

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[158] According to some the Solow model is inextricably linked to the assumption of constant returns to scale. It is because there is a close link between the GDP accounting identity and the production function. If the production function happens to exhibit constant returns to scale and the inputs are paid the value of their marginal products, the value of output equals the sum of the input values. This condition of "product exhaustion" are based on Euler's Theorem, and it implies that the value shares, sK and sL, sum to one. (Hulten 2000: 10-11).

[159] Böhm-Bawerk (1959 [1881]) quoted in Murphy (2004) called this as "naive productivity theory" of

$$\beta = w * L/Y \qquad (8)$$

Or, we could proceed with $Y = K*MP_K + L*MP_L$, where $MP_K = \alpha * (Y/K)$ and $MP_L = \beta * (Y/L)$ we would get:

$$Y = K*\alpha * (Y/K) + L*\alpha * (Y/L) = \alpha * Y + \beta * Y \qquad (9)$$

In short, whether β would equal the share of labor income in national income would depend on how close is w equals to MPL. In our result, β or $MP_L * L/Y$ is less than $w* L/Y$ calculated from the national income data that would suggest that $w<MP_L$, which could indicate that labor are receiving income lower than their productivity. The lower wage could also indicate that the process of adverse selection is happening probably caused by the imperfect information and the heterogeneous quality of labor.

In general, wage differences occur because jobs are heterogeneous, workers are heterogeneous, and labor markets are imperfect (probably in terms of information) and segmented. Heterogeneous or segmented jobs require different types and degrees of skill, and heterogeneous workers posses such different skills.

As an economy become industrialized, its previously relatively homogenous agricultural output of food at subsistence level evolved into a vibrant, dynamic and heterogeneous economy. These 'heterogeneity' of outputs could be expected to bring considerable changes in the structure of labor market as well. As Galenson (1992) noted:

> The relationships between economic development and the exploration and structure of labor markets have not been explored thoroughly. In part this is due to problems of measurement, but there are also difficulties stemming from the heterogeneity of the forces that affect labor market. For example, the political background and social characteristics of a

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interest.

country have an important influence on the manner in which its people work, and this in turn affects productivity.

5.3 Three Factors of Production Growth Model Applied to Indonesia

The previous section has provided us with the following points to further our study. Firstly, regarding the period that is going to be used, it is better to exclude the years after the 1997 crisis, since it would distort our estimation result. The second is that the use of GDP per labor instead of total GDP as the measure of economic growth would provide us with better result, because it focuses our attention towards productivity, which we could regard as the ultimate source of growth, rather than towards aggregate output.

The third is that it was necessary to differentiate the 'labor' input in our estimated function to take into consideration the heterogeneity of labor, that most probably occur as a result of the different 'quality' or skill of the labor force due to the education or training that they have received. This is mostly related with the objective of this research to look at the direct impact of education towards economic growth.

The problem of homogeneity actually also occurs in terms of capital. However, as we could assume that capital with higher productivity and quality would cost more and thus being reflected in its price, the problem of aggregation in capital is somewhat less serious compared with labor.

Even then, one important point regarding the 'source' of capital is worth mentioning. It is important because, as we learn in the previous 1997 crisis, the lack of "indigenous" capital[160] coupled with free mobility of capital has brought devastating

[160] This is one characteristic where 'human capital' might be regarded as to be more stable and thus

impact to the Indonesian economy. Looking at Table 5-5, in terms of number of conglomerate groups, "indigenous" companies accounted only for 7-9% for the 1988-1996 period.

Table 5-4 Anatomy of the Top 300 Indonesian Conglomerates, 1988-1996

Item	1988	1989	1990	1991	1992	1993	1994	1995	1996
Number of Groups									
Year of Establishment									
Before 1946	13	13	13	13	13	12	12	11	10
1946-1968	125	125	123	120	118	122	122	120	120
1969 Forward	162	162	164	167	169	166	166	169	170
Ethnicity									
Mixed	86	83	80	76	76	71	69	71	68
Nonindigenous	193	196	196	199	198	201	205	204	204
Indigenous *	21(7)	21(7)	24(8)	25(8)	26(9)	28(9)	26(9)	25(8)	28(9)
Political Affiliation									
Nonofficial	260	259	260	260	262	263	262	260	259
Official-Related	40	41	41	40	38	37	38	40	41
Origin									
Family	176	175	171	174	172	171	172	177	175
Nonfamily	124	125	129	126	128	129	128	123	125
Sales (Rp trillion)									
Year of Establishment									
Before 1946	9.4	12.3	13.3	15.8	20.4	21.9	25.2	30.1	33.4
1946-1968	31.2	36.8	43.2	49.7	59.1	73.1	86.1	103.0	116.4
1969 Forward	23.2	28.4	33.6	40.0	46.5	52.1	59.8	68.9	77.4
Ethnicity									
Mixed	12.8	15.1	17.6	18.7	21.2	22.8	25.2	29.0	31.1
Nonindigenous	38.6	46.4	54.4	64.5	76.7	87.3	101.5	120.9	137.4
Indigenous	12.4	16.0	18.0	22.3	28.1	37.0	44.4	52.1	58.7
Political Affiliation									
Nonofficial	48.9	58.4	58.4	80.7	95.6	114.3	134.2	159.1	179.8
Official-Related	14.9	19.1	31.7	24.8	30.4	32.8	36.9	42.9	47.4
Origin									
Family	35.0	42.6	49.1	57.2	68.4	77.4	89.5	106.3	120.4
Nonfamily	28.8	34.9	41.0	48.3	57.6	69.7	81.6	95.7	106.8

Note: *(..) = percentage of total
Source: Indonesian Business Data Centre, Conglomeration Indonesia 1997 in Husnan (2001).

beneficial compared with its 'physical capital' counterparts.

The inclusion of other factors of production other than capital (K) and labor (L) has become a long tradition in empirical models of growth. The Table 5-6 merely offers some work that has been done using an ‘extended’ Solow growth model.

Table 5-5 Some examples of the structural form of Solow (extended) growth models

Author	Structural and Estimation Form
Solow (1956) in Gross (2001)	$y = A\,k^{\alpha}$
Roemer (1994: 2)	Y=Y(K, L, H, E+F; t) H is measured in government expenditure and enrollment (p.7). $g(Y)=\sigma_k g(K) + \sigma_L g(L) + \sigma_H g(H) + \sigma_M g(E+F) + \tau$
Dewan and Hussein (2001: 23-25)	Y=Y(K_t, L_t, H_t, A_t) $L_t=L_0 e^{nt}$ $A_t = A_0 e^{gt} F^{\theta_f} P^{\theta_p}$ $\dot{Y}/Y = \eta_1(\dot{K}/K) + \eta_2(\dot{L}/L) + \eta_3(\dot{H}/H) + \eta_4(\dot{A}/A)$ $Y_t = \alpha + \beta_1(n_{i,t} + g + \delta) + \beta_2 s_{k_{i,t}} + \beta_3 s_{h_i} + \beta_4 F_i$ $+ \beta_5 P_i + \beta_6 Y_{i,t-1} + \xi_t + \mu_i + \varepsilon_{i,t}$ H_t reflects the educational level of the workforce as well as its health and nutritional status (p.23).
Lucas (1988), Mankiw et al. (1992) in Gross (2001).	$y = k^{\alpha} h^{\alpha-1}$
Baier, et. al. (2002: 6,12)	$Y(t) = A(t)F(K(t), H(t))$ $a = y - \alpha k - (1-\alpha)h$ $H = H_0 \exp(\phi_p P + \phi_i I + \phi_s S + \lambda_1 Ex + \lambda_2 Ex^2)$ They use income per worker rather than the more usual measure of economic growth, income per person, as do recent contributions by Mankiw, Romer and Weil (1992) and Klenow and Rodriguez-Clare (1997a).
Sargent (2000: 3-7)	$\dot{y} = \dot{A} + \alpha \cdot \dot{k}$ $Y = A' \cdot E^{\alpha} \cdot L^{1-\alpha}$, where $E_t = \sum_{v=0}^{t} K_{vt} \cdot B_v$ $T\dot{F}P = \dot{L}P - \hat{\alpha} \cdot \dot{k}$
Cororaton (2002)	`Q = A*f(L,K)` `Q = B f(l1, l2,. . ., k1, k2,. . .)`

Author	Structural and Estimation Form
	$TFP\_A - TFP\_B$ May give indications of the effects of changes in the quality of factor inputs on TFP. $Q^*_t = TFPG_t^* + s_K K_t^* + s_L L_t^*$
Aiyar and Daalgard (2005: 84)	$Y = AF(K, H),$ $\hat{A} = \hat{y} - \alpha_K \hat{k} - \alpha_H \hat{h},$ where $y = Y / L$, $k = K / L$, and $h = H / L$; α_K and α_H refer to the share of physical capital and human capital, respectively, in national output.
Bosworth and Collins (2003: 6)	$Y = AK^{\alpha}(LH)^{1-\alpha}$ $H = (1.07)^{S}$ $y/l = \alpha(k/l) + (1-\alpha)h + a$
Smolny (2002; 307)	$Y = Y(K, L, HK, U, \text{residual})$ where HK is human capital per worker and U is an indicator of the business cycle, factor utilization.
Tran and Chau (1998)	$Y = f(K, L, R, a)$ $g_Y = w_K.g_K + w_L.g_L + w_R.g_R + a$ $g_Y = (w_K.g_K) + (w_L.g_L) + a$ $a = g_y - (w_K.g_K) - (w_L.g_L)$
Cihan and Dutta (2004)	$YPCAPG = \beta_0 + \beta_1 YPCAPBASE + \beta_2 INV + \beta_3 AVEDUBASE + \varepsilon_t$
Crafts (1999: 147)	$\Delta Y/Y = \alpha \Delta K/K + \beta \Delta L/L + \Delta A/A,$ where α and β are the shares of wages and profits in national income, respectively.
Davies (2002)	$Y = A K^{\alpha} H^{\beta} (h^{\epsilon} L)^{\gamma}$ $Y = A K^{\alpha} H^{\beta} L^{\gamma}$ $Y = A K^{\alpha} H^{\beta + \gamma}$
Andreosso-O'Callaghan (2002)	$Y = f(K, L, HK)$

Author	Structural and Estimation Form
	$\ln y = \alpha + \beta \ln L + \gamma \ln DK + \delta \ln FK + \zeta \ln HK$
Sianesi and Van Reenen (2000: 17)	$Y(t) = A(t)H(t)^{\alpha} L(t)^{\beta} K(t)^{1-\alpha-\beta}$ $y(t) = A(t)h(t)^{\alpha} k(t)^{1-\alpha-\beta}$ $h \equiv H / L$ $h \equiv H / L$ is the stock of human capital per worker (say, average years of schooling in the labor force).
Avila and Evenson (2004)	$Y = A_{(t)}(LQ_L)^{\alpha} H^{\beta} K^{1-\alpha-\beta}$ $G_{TFP} = G_Y - C_L(G_L + G_{QL}) - C_H G_H - S_K G_K - G_A$
van Leeuwen (2004)	$\ln Y_{jt}^{g} = \beta_{0jt} + \beta_{1jt} S_{jt} + \varepsilon_{jt}$
Astorga, et. al. (2003)	$Y_t = A_t K_t^{\alpha} (h_t L_t)^{\beta}$ $\log Y_t = \log A_t + \alpha \log K_t + \beta \log(hL_t)$
Chen and Dahlman (2004)	$Y = A(g, e, r, i).F(K, L)$
Marks (2004)	$Y_t = A_t \cdot K_t^{\alpha} \cdot H_t^{\beta}$ $H_t = L_t \cdot e^{\delta t St}$ $Y_t = A_t \cdot K_t^{\alpha} \cdot (L_t \cdot e^{\delta t St})^{1-\alpha}$
Bosworth, et. al. (1995)	$Y = Ae^{\theta t} K^{\alpha} H_i^{\beta} L^{(1-\alpha-\beta)}.$ $Y = Ae^{\theta t} K^{\alpha} (H_{iq} L)^{(1-\alpha)}.$

Source: Compiled by author.

Generally, the inclusion of human capital in the growth models was done by using the educational attainment of the labor force as one of the variables. Others like McMahon (1999) included gross enrolment rate as a proxy for educational investment expenditures.

The variable human capital[161] (H) could be defined as the aggregate years of education received for labor, and would be defined as follows:

$$H = L_0 + L_1 + L_2 + L_3 + L_4 + L_5 + h_6 L_6 = \sum h_i L_i$$

where:

L_0 = number of laborers who did not received any education.

L_1 = number of laborers who did not complete elementary school .

L_2 = number of laborers who passed elementary school (Sekolah Dasar/SD).

L_3 = number of laborers who passed junior high school (Sekolah Menengah Pertama/SMP).

L_4 = number of laborers who passed senior high school (Sekolah Menengah Atsa/SMA).

L_5 = number of laborers who passed college (Akademi/D3).

L_6 = number of laborers who passed University education (Universitas).

L = total number of laborers.

h_i = respective weight attached to each level of education.

[161] Alternative measurement of human capital coud be seen in Chen and Dahlman (2004). Human capital is usually measured in terms of indexes, usually based on the census data that measure the percentage of the population who have at least achieved a given level of education that is widely used by labor economists (Coulombe and Tremblay 1998).

Table 5-6 Labor classification based on the level of education received (in thousands)

Year	L_0	L_1	L_2	L_3	L_4	L_5	L_6	L
1969	16,003	14,086	3,934	1,503	956	52	26	36,560
1970	13,167	16,762	4,446	1,571	1,032	61	31	37,070
1971	15,981	17,382	5,033	1,641	1,115	70	39	41,261
1972	14,656	18,014	5,677	1,715	1,204	82	48	41,396
1973	15,008	17,748	6,415	1,792	1,300	95	59	42,417
1974	15,147	17,621	7,249	1,873	1,405	110	72	43,477
1975	15,331	17,361	8,191	1,957	1,517	128	89	44,573
1976	15,413	17,104	9,256	2,045	1,638	148	109	45,714
1977	12,965	16,851	12,821	2,198	1,768	172	123	46,898
1978	16,570	19,144	11,288	2,532	1,897	199	151	51,780
1979	13,998	19,026	10,877	2,500	2,961	231	186	49,780
1980	17,273	17,617	10,439	2,470	2,964	240	188	51,192
1981	15,972	16,499	12,527	2,836	3,088	250	188	51,360
1982	14,898	17,951	14,692	3,206	3,217	260	190	54,413
1983	29,672	17,930	10,204	2,492	2,771	216	192	63,476
1984	25,349	19,513	12,322	3,292	4,141	362	255	65,234
1985	19,427	21,097	16,819	4,217	4,708	456	317	67,043
1986	12,917	20,830	22,954	5,402	5,356	574	305	68,338
1987	12,383	20,889	24,085	5,932	5,950	698	464	70,402
1988	12,351	20,947	25,371	6,387	6,376	642	444	72,518
1989	11,968	20,574	26,195	6,487	6,966	739	497	73,425
1990	11,306	20,240	27,952	7,294	7,682	815	562	75,851
1991	10,269	18,807	29,008	8,351	8,445	863	680	76,423
1992	10,429	19,770	29,164	8,504	8,976	928	747	78,518
1993	9,291	19,176	29,904	9,435	11,057	1,146	1,024	81,032
1994	9,840	19,439	29,746	8,608	9,651	1,004	911	79,201
1995	9,683	19,618	26,732	9,014	12,194	1,323	1,546	80,110
1996	8,537	17,283	32,947	10,685	13,284	1,483	1,483	85,702
1997	8,469	18,799	30,843	11,589	14,089	1,488	1,775	87,050

Source: Cental Agency of Statistics.

Table 5-7 Labor classification based on the level of education received (in percentage of total labor)

Year	L_0	L_1	L_2	L_3	L_4	L_5	L_6	L
1969	43.8	38.5	10.8	4.1	2.6	0.1	0.1	100
1970	35.5	45.2	12.0	4.2	2.8	0.2	0.1	100
1971	38.7	42.1	12.2	4.0	2.7	0.2	0.1	100
1972	35.4	43.5	13.7	4.1	2.9	0.2	0.1	100
1973	35.4	41.8	15.1	4.2	3.1	0.2	0.1	100
1974	34.8	40.5	16.7	4.3	3.2	0.3	0.2	100
1975	34.4	39.0	18.4	4.4	3.4	0.3	0.2	100
1976	33.7	37.4	20.3	4.5	3.6	0.3	0.2	100
1977	27.7	35.9	27.3	4.7	3.8	0.4	0.3	100
1978	32.0	37.0	21.8	4.9	3.7	0.4	0.3	100
1979	28.1	38.2	21.9	5.0	6.0	0.5	0.4	100
1980	33.7	34.4	20.4	4.8	5.8	0.5	0.4	100
1981	31.1	32.1	24.4	5.5	6.0	0.5	0.4	100
1982	27.4	33.0	27.0	5.9	5.9	0.5	0.4	100
1983	46.8	28.3	16.1	3.9	4.4	0.3	0.3	100
1984	38.9	29.9	18.9	5.1	6.4	0.6	0.4	100
1985	29.0	31.5	25.1	6.3	7.0	0.7	0.5	100
1986	18.9	30.5	33.6	7.9	7.8	0.8	0.5	100
1987	17.6	29.7	34.2	8.4	8.5	1.0	0.7	100
1988	17.0	28.9	35.0	8.8	8.8	0.9	0.6	100
1989	16.3	28.0	35.7	8.8	9.5	1.0	0.7	100
1990	14.9	26.7	36.9	9.6	10.1	1.1	0.7	100
1991	13.4	24.6	38.0	10.9	11.1	1.1	0.9	100
1992	13.3	25.2	37.1	10.8	11.4	1.2	1.0	100
1993	11.5	23.7	36.9	11.6	13.6	1.4	1.3	100
1994	12.4	24.5	37.6	10.9	12.2	1.3	1.2	100
1995	12.1	24.5	33.4	11.3	15.2	1.7	1.9	100
1996	10.0	20.2	38.4	12.5	15.5	1.7	1.7	100
1997	9.7	21.6	35.4	13.3	16.2	1.7	2.0	100

Source: Author's calculation.

In determining the constants 'h', the most straight-forward measures would the respective years spent on pursuing the respective level of education. In our case, the value could be determined as:

Table 5-8 Value of weight, 'h_i', in calculating H

Constant	Description	*Value*
h_0	No schooling	*0*
h_1	Did not complete elementary school	*3*
h_2	Passes elementary school	*6*
h_3	Passes junior high school	*9*
h_4	Passes senior high school	*12*
h_5	Passes college	*15*
h_6	*Passes University education*	*17*

By applying the value of 'h' based from the above table, we are actually indexing labor in terms of its education level. We are implicitly assuming that workers which have more education are more skilled and productive compared those who are less educated.

The type of model applied is to use GDP per worker. As such, we would have the following equation (following Mankiw, Romer and Weil 1992 in Davies 2002; and Akinlo 2003):

$$(Y / L) = A(K / L)^{\alpha} (H / L)^{\gamma} \tag{10}$$

and

$$\ln(Y / L) = \ln A + \alpha \ln(K / L) + \gamma \ln(H / L) \tag{11}$$

One of the drawbacks of this equation was that it reduces the coefficients such that we could not assess the contribution of labor. However, in other perspective, this reduction in coefficient also increases the strength of the equation because it increases the degrees of freedom.

Applying the data to the following equation, we could not get a statistically significant result from both of the equations.

Despite the contention that the evaluation of the models would not be based on statistical characteristics and would be guided by a more 'pragmatic' and 'data fit' objective in mind, we must acknowledge that the weak significance[162] in terms of statistical properties of human capital coefficient (γ). As such, the re-examination of the human captal 'H' indicator is warranted. The H is previously measured in terms of the total number of schooling years for total labor in the economy.

The 'weight' attached to each level of education represented by 'h', actually could be further examined. In terms of workers who do not graduate elementary school, it is doubtful that they would gain significant skills compared to workers who never received schooling.

This could probably indicate some measurement problems in the human capital indicator used, or simply to say that human capital just do not have strong relations with economic growth. The most possible culprit for this lack of significance is the 'zero' weight applied to labor with no-schooling. As the majorities of labor in Indonesia receive no schooling or do not graduate from elementary school then the index is very sensitive to the weight given for the elementary school graduates/non graduates. Since the beginning of development in 1949 almost 44% of labor received no education and most probably illiterate. Not after 1985, 36 years later, did the percentage of labor without schooling drop below 20%[163]. If we attach a zero

[162] A P of 5% or less is the generally accepted point at which to reject the null hypothesis. With a P value of 5% (or .05) there is only a 5% chance that results we are seeing would have come up in a random distribution, so we can say with a 95% probability of being correct that the variable is having some effect, assuming the model is specified correctly. http://dss.princeton.edu/online_help/analysis/interpreting_regression.htm#ptse

[163] Even then, the percentage of labor who did not complete elementary school remains high, and still reached 21% of the labor force in 1997.

coefficient to this group of workers, it would be the same as simply saying that they are not contributing anything to the growth process.[164]

Nevertheless, it must be remembered that indicator H that we use provide us with a 'meaningful' characteristic, because at the same time it represents the average level of education received by the labor force.[165]

Other scholars (like Barro and Lee 1993) have suggested to use the 'wage rate' (the average market return) as the index for labor quality instead of formal education[166]. To make this statement clearer, let us try to convert the previous value of h into an index based on the workers that have passed elementary level or have received 6 years of education. The transformation is given in Table 5-9.

[164] To some extent, this was also probably true, because of the low-skill that these workers have, they would tend to work fewer hours and yield fewer outputs than their counterparts.
[165] For some examples on alternatives measurement of human capital, refer to Bosworth, et. al. (1995), Van Leeuwen (2004) and Stroombergen et. al. (2002).
[166] However, Barro and Lee (1993) [quote in Coulombe and Tremblay (1998)] acknowledge that "such approach might introduce a bias since, on the one hand, the level of education is likely to be positively correlated with individual skills and, on the other hand, market returns of education exclude external benefits generated by human capital".

Table 5-9 The value of h_i as an index of labor quality

Constant	Description	Value	Index (h_2=1.00)
h_0	**No schooling (No School)**	**0**	**n.a.**
h_1	**Did not complete elementary school (Not finish ES)**	**3**	**0.50**
h_2	**Passed elementary school (ES)**	**6**	**1.00**
h_3	**Passed junior high school (JHS)**	**9**	**1.50**
h_4	**Passed senior high school (SHS)**	**12**	**2.00**
h_5	**Passed college (DIPI/II/III)**	**15**	**2.50**
h_6	**Passed University education (Univ)**	**17**	**2.83**

Based on the above tables, as we put value of h_2=6 and h_3=9, we are implicitly saying that workers with junior high school level of education is actually 1.5 times more productive than its counterpart that receives elementary level of education[167]. As such as, we could assume that their difference in salary would also in the magnitude of 1.5 times.

We could convert the following wage data in table 5-10 and 5-11, categorized according to the level of education, into the same index described above.

[167] Wo¨ ßmann (2003) raises the same critics on the schooling measurement of human capital.

Table 5-10 Average wages and salaries by education of employees, 1986-2000 (rupiah)

Year	No school	Not finish ES	ES	JHS	SHS	DIP I/II/III	Univ	Total
1989	37,730	46,211	59,575	91,847	111,291	153,888	208,120	77,164
1990	42,194	50,784	64,865	104,776	126,354	184,104	251,680	89,676
1991	51,821	61,387	74,501	110,204	139,938	204,873	272,500	101,651
1992	56,121	64,791	90,372	119,582	156,797	236,165	295,246	115,951
1993	65,039	74,682	101,393	160,425	200,331	270,794	355,650	143,493
1994	72,577	93,823	113,232	159,807	207,732	323,143	396,041	157,343
1996	92,110	122,432	145,735	198,029	259,862	376,086	487,463	207,108
1997	101,478	135,422	173,368	226,805	305,651	416,349	543,759	240,732
1998	120,650	160,883	199,395	261,565	351,859	482,387	610,807	282,251
1999	162,105	191,721	239,708	328,590	441,086	595,635	701,651	346,950
2000	206,206	232,009	286,264	363,817	511,645	659,740	935,328	430,197

Source: calculated from Hananto (2004).

Table 5-11 Average wages and salaries by education of employees, 1986-2000 (rupiah), as an index of wage salary of workers with elementary education

Year	No school	Not finish ES	ES	JHS	SHS	DIP I/II/III	Univ	Total
1989	0.63332	0.77568	1	1.5417	1.86807	2.5831	3.49341	1.29524
1990	0.65049	0.78292	1	1.61529	1.94795	2.83826	3.88006	1.3825
1991	0.69557	0.82398	1	1.47923	1.87833	2.74993	3.65767	1.36442
1992	0.621	0.71694	1	1.32321	1.73501	2.61325	3.26701	1.28304
1993	0.64145	0.73656	1	1.58221	1.97579	2.67074	3.50764	1.41522
1994	0.64096	0.82859	1	1.41132	1.83457	2.85381	3.49761	1.38956
1996	0.63204	0.8401	1	1.35883	1.78311	2.58062	3.34486	1.42113
1997	0.58533	0.78112	1	1.30823	1.76302	2.40153	3.13644	1.38856
1998	0.60508	0.80686	1	1.31179	1.76463	2.41925	3.0633	1.41554
1999	0.67626	0.79981	1	1.37079	1.8401	2.48483	2.92711	1.44739
2000	0.72034	0.81047	1	1.27091	1.78732	2.30466	3.26736	1.5028
average	0.64562	0.79118	1	1.41578	1.83435	2.59091	3.3675	1.3914

Source: calculated from table 5-12.

Looking at the ‘weight’ or ‘index’ calculated from the wage figures and educational level, we see a relatively large discrepancy between the two variables, as depicted in Table 5-12.

Table 5-12 Comparison of human capital index based on the level of education and wage ratio

Constant	Description	Index based on the level of education years of schooling(h_i)	Index based on the wage ratio (h_w)	h_w-h_i
h_0	No schooling	0	0.645622	0.645622
h_1	Did not complete elementary school	0.50	0.791184	0.291184
h_2	Passed elementary school	1.00	1	0
h_3	Passed junior high school	1.50	1.415775	-0.08423
h_4	Passed senior high school	2.00	1.834355	-0.16565
h_5	Passed college	2.50	2.590907	0.090907
h_6	Passed University education	2.83	3.367497	0.537497

From Table 5-12, our index of h, shows the occurance of large discrepancy in the 'no-schooling' and 'university education' category. This provides strong argument for changing the value of 'zero' in h_0.

Based on that we could construct a new measurement of human capital H_2. The new index of H_2 would be counted by multiplying the wage index by 6 (because the index was based on the wage rate of elementary school graduates, with a 6-year level of education). However, even after adjusting the human capital measurement, we still failed to get a statistically significant results from equation (10) and (11).

Finally, Bosworth and Collins (2003) provide an alternative for measuring the impact of Human Capital on growth using the following equation[168]:

$$(Y) = AK^{\alpha}(LH)^{\gamma} \qquad (12)$$

Dividing both sides of the equation by Labor (L) we would get:

$$(Y/L) = A(K/L)^{\alpha}(H)^{\gamma} \qquad (13)$$

and

$$\ln(Y/L) = \ln A + \alpha \ln(K/L) + \gamma \ln(H) \qquad (14)$$

The regression results for equation (13) and (14) by using indicators of Human Capital H_1 and H_2 are given below.

Box 5-5 Regression estimation result, eq.13, H1 (1969-1997)

Dependent Variable: Y/L
Method: Least Squares
Date: 01/13/07 Time: 22:00
Sample: 1969 1997
Included observations: 29
Convergence achieved after 218 iterations
(Y/L)=C(1)*((K/L)^C(2))*((H1)^C(3))

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	87.39345	136.0522	0.642352	0.5263
C(2)	0.916572	0.122575	7.477655	0.0000
C(3)	-0.284631	0.095804	-2.970970	0.0063

R-squared	0.940793	Mean dependent var	1.42E+09
Adjusted R-squared	0.936239	S.D. dependent var	3.55E+08
S.E. of regression	89742466	Akaike info criterion	39.56048
Sum squared resid	2.09E+17	Schwarz criterion	39.70193
Log likelihood	-570.6270	Durbin-Watson stat	0.456037

Box 5-6 Regression estimation result, eq.14, H1 (1969-1997)

Dependent Variable: LOG(Y/L)
Method: Least Squares
Date: 01/13/07 Time: 22:01
Sample: 1969 1997
Included observations: 29
LOG(Y/L)=C(1)+C(2)*LOG(K/L)+C(3)*LOG(H1)

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	5.604865	1.971433	2.843041	0.0086
C(2)	0.834688	0.152232	5.482994	0.0000
C(3)	-0.231255	0.114686	-2.016422	0.0542

R-squared	0.918287	Mean dependent var	21.04762
Adjusted R-squared	0.912001	S.D. dependent var	0.239253
S.E. of regression	0.070973	Akaike info criterion	-2.355327
Sum squared resid	0.130968	Schwarz criterion	-2.213882
Log likelihood	37.15224	Durbin-Watson stat	0.417966

[168] In this equation, human capital is assumed to be embedded in labor; or vice versa.

Box 5-7 Regression estimation result, eq.13, H2 (1969-1997)

Dependent Variable: Y/L
Method: Least Squares
Date: 01/13/07 Time: 22:15
Sample: 1969 1997
Included observations: 29
Convergence achieved after 158 iterations
(Y/L)=C(1)*((K/L)^C(2))*((H2)^C(3))

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	9105.261	4378.101	2.079728	0.0476
C(2)	1.124617	0.106772	10.53288	0.0000
C(3)	-0.648746	0.120259	-5.394563	0.0000

R-squared	0.962553	Mean dependent var	1.42E+09
Adjusted R-squared	0.959672	S.D. dependent var	3.55E+08
S.E. of regression	71371331	Akaike info criterion	39.10239
Sum squared resid	1.32E+17	Schwarz criterion	39.24383
Log likelihood	-563.9846	Durbin-Watson stat	0.593493

Box 5-8 Regression estimation result, eq.14, H2 (1969-1997)

Dependent Variable: LOG(Y/L)
Method: Least Squares
Date: 01/13/07 Time: 22:15
Sample: 1969 1997
Included observations: 29
LOG(Y/L)=C(1)+C(2)*LOG(K/L)+C(3)*LOG(H2)

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	9.196711	0.574627	16.00467	0.0000
C(2)	1.101039	0.137773	7.991707	0.0000
C(3)	-0.626526	0.149552	-4.189346	0.0003

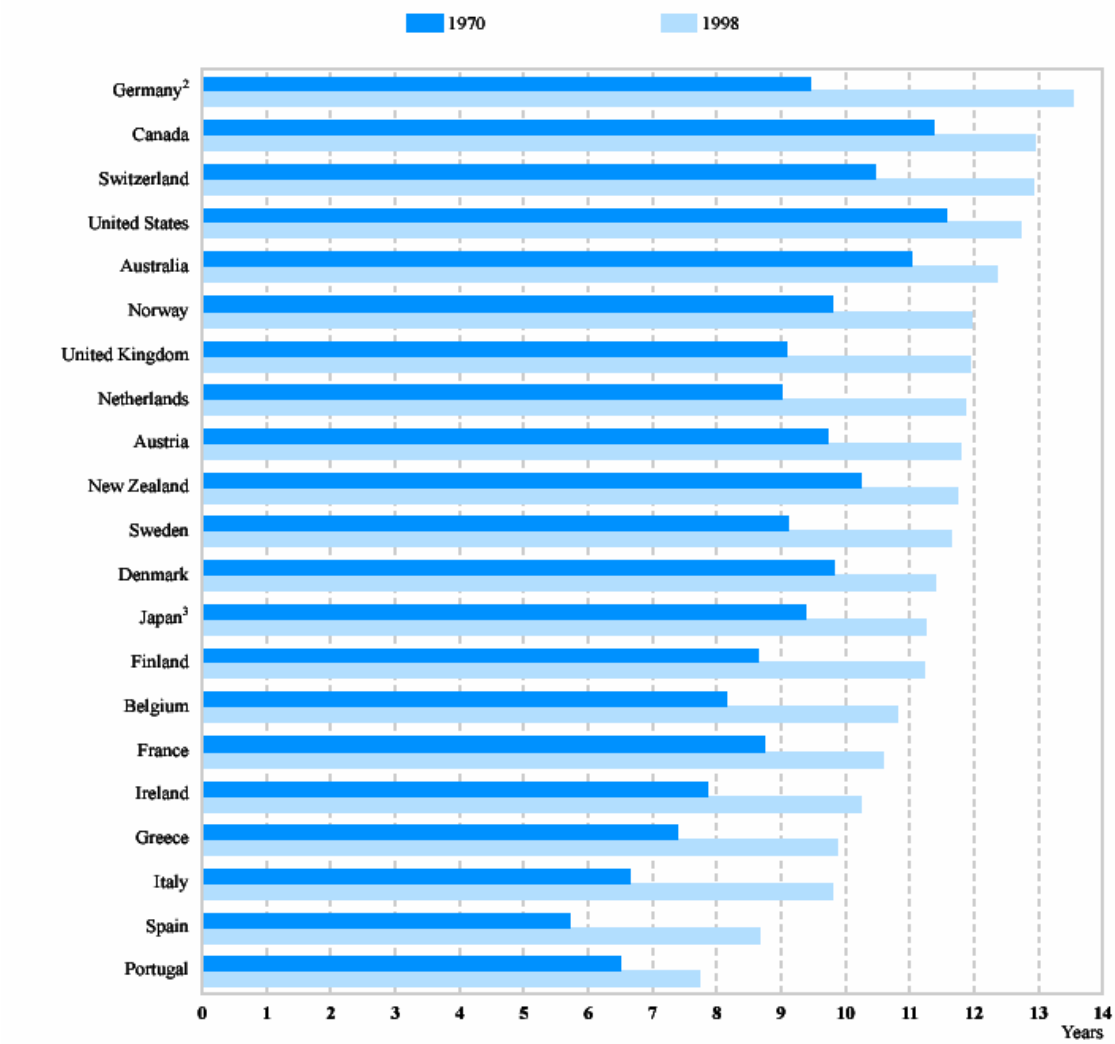
R-squared	0.943588	Mean dependent var	21.04762
Adjusted R-squared	0.939248	S.D. dependent var	0.239253
S.E. of regression	0.058971	Akaike info criterion	-2.725857
Sum squared resid	0.090416	Schwarz criterion	-2.584413
Log likelihood	42.52493	Durbin-Watson stat	0.455204

If we look at the results, the coefficients on human capital would be higher if we use the H_1 indicator (where labor with no schooling has the value of zero) compared with H_2 indicator. This would probably indicate that unskilled labor would pose a burden to the overall economy rather than acted as an input for production.

The H measure of human capital divided by the labor force is actually equal to the mean years of education received by the labor force, which is very low, even

compared with the figures of working-age population in for OECD countries in the 1970s (refer to Figure 5-3).

Figure 5-3 Average Years of Education of the Working-Age Population in OECD Countries, 1970 And 1998



Note: 1. Average number of years of education in the population aged 15-64 years, based on data on level of education attained and assumptions about the number of years of education implied by different levels of education attainment. 2. West Germany in 1970. 3. 1990 instead of 1998 for Japan.

Source: OECD (2000).

5.4 Interpreting the Human Capital coefficient: the Elasticity of Output With respect To Human Capital

The coefficient α and γ in the equations represent the elasticity of output with respect to capital and human capital respectively. Generally, it represents the percentage of output change if there were an increase in capital, labor or human capital. We will analyze the different coefficients individually.

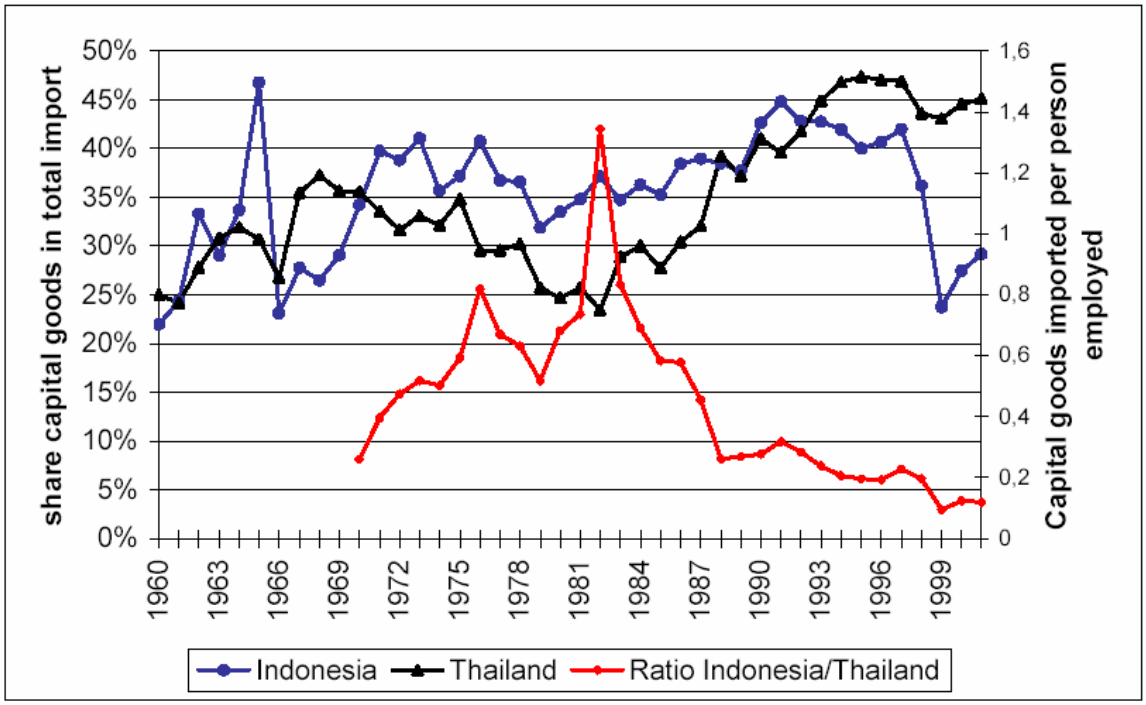
5.4.1 Coefficient on Capital (α)

The coefficient estimates from the regression results have the values ranging from 0.54 to 1.34. Other authors has calculated α, and generally agreed that α for developing countries should be greater than the common value for developed countries of 0.3[169], for example Senhadji (1999) estimates that α of Indonesia is 0.49, Bosworth and Collins (1996) assume that α is 0.35, while Kim and Lau (1994) obtained capital elasticities in excess of 0.4 for the Asian Newly Industrialized Countries (NICs).

Looking at the high share of capital in determining Indonesian economic growth, it would be important to acknowledge the high import density of capital. A large portion of the capital is imported, which necessitates the availability of foreign exchange. Fortunately for Indonesia, the availability of oil reserves has provided the much-needed foreign exchange for the development to proceed. Figure 5-4 shows the share of capital goods in total imports in Indonesia and Thailand.

[169] Maddison (1987) estimates that α is 0.3 for industrial countries. Englander and Gurney (1994) found for the business sector of the OECD countries capital shares that varied between 0.30 and 0.35, while World Bank study on Malaysia (2004) uses 0.30 (as cited in Marks 2004).

Figure 5-4 Share of capital goods in total imports entering Indonesia and Thailand, 1960-2001 (ratio of capital goods imports per person employed (Thailand = 1.0))



Note: Capital goods refer to all products classified as category 7 in the Standard International Trade Classification (SITC, 2nd revision), i.e. machinery and transport equipment.

Source: UN 1960-2001 as cited in Frankema and Lindblad (2005).

5.4.2 Coefficient on Human Capital (γ)

The negative value of human capital coefficient says that an additional input of human capital would reduce the growth of output by certain percentage points. 'γ' with a value of -1 (negative), meaning that a 1 percent increase in labor growth, would lead to a decrease of output growth per capita; which means that the adition of human capital would just becoming a burden to the economy rather than acted as a productive input of production. The low or negative value of human capital coefficient was acknowledged by other scholars, as described in Table 5-13.

Table 5-13 Some results on Human Capital coefficients

Author	Model	Human Capital (HK) Variable	Technique	Coefficient
Mankiw, Romer & Weil 1992	Augmented Solow, Steady state	Secondary enrollment	Cross-section OLS	0.28
Barro and Lee 1992	Reduced form	Log of Barro-Lee HK	Cross-section OLS	0.057
Barro and Lee 1992	Reduced form	Log of Barro-Lee HK	Pooled panel	0.021
Romer 1990	Reduced form	Literacy rate, change	Cross-section instrumental variables	0.204
WDR 1991	Augmented Solow, production function	WDR HK, change	Pooled panel, annual data	Ed<3 yrs: 0.09 Ed>3 yrs: 0.04
Benhabib-Spiegel, 1992	Augmented Solow, production function	Kyriacou HK, change	Cross-section	-0.021
Lau et al., 1991	Augmented Solow, production function	WDR HK, log difference	Pooled panel, annual	0.016
Judson 1993	Augmented Solow, production function	Judson HK, growth rate	Panel GLS	0.098

Source: Judson (1995).

The low and negatrive value on human capital reiterates the low contribution of human capital on economic growth in Indonesia. In our equation, labor and human capital are embedded, as such the coefficient on human capital also to some extent represents the value of labor contribution to growth as well. As most of the laborers in Indonesia have a low level of education, and since this condition would affect the value of human capital in our equations, it might have pointed out the message that 'unskilled' labor would have little to contribute in the growth process.

The low or negative labor coefficient might point out to the 'jobless growth' or the 'low output elasticity of demand for labor', especially in the growth leading sector like manufacturing.

Indeed, the growth of manufacturing value added has proven to have low elasticities of labor; meaning that the increase in manufacturing value added does not absorb 'sufficient' labor or create enough employment; this would also indicate the

high nature of capital intensity in the manufacturing sector. This in turn could lead to the lack of 'pro-poor' growth. As shown in Table 5-14, Indonesia's elasticity of employment indeed dropped from 0.93% p.a. in 1981-92 to only 0.25% p.a., even much lower than the 1971-80 figure of 0.45% p.a.. Although other East Asian neighboring countries in 1981-92 also have similar figures with Indonesia (with the exception of the Philippines), at the same time Indonesia also faced a severe dropped in labor productivity, from 8% growth p.a. in 1971-80 to only 0.9% p.a. in 1981-92.

Table 5-14 Average Annual Percent Growth Rates in Output, Employment, Earnings, Productivity and Output Elasticity of Employment in Manufacturing in Selected ESEA Countries

Country	Real Value Added			Employment			Real Earnings		
	71-80	81-92	92-97	71-80	81-92	92-97	71-80	81-92	92-97
Korea	16.71	11.93	8.11	11.61	5.8	2.3	10.56	8.05	5.44
Indonesia	14.56	12.09	10.35	6.49	11.19	2.55	4.3	4.72	7.87
Malaysia	11.48	10.62	12.81	10.28	4.22	3.05	2.61	2.11	4.35
Thailand	10.28	10.22	8.18	6.87	5.42	1.8	0.16	6.19	3.01
Philippines	5.93	0.9	4.47	11.13	-0.45	2.81	-3.34	5.88	-0.86
Country	Labor Productivity			Output Elasticity of Employment					
	71-80	81-92		71-80	81-92	92-97			
Korea	5.1	6.13		0.69	0.49	0.28			
Indonesia	8.07	0.9		0.45	0.93	0.25			
Malaysia	1.2	6.4		0.9	0.4	0.24			
Thailand	3.41	4.79		0.67	0.53	0.22			
Philippines	-5.19	1.34		1.88	-0.5	0.63			

Source: Khan, Azizur Rahman (2001).

5.5 Measuring Total Factor Productivity

Another advantage of using the Solow model is that we could get the measure of Total Factor Productivity growth. Since what we are interested is in the 'growth' level of TFP, what matters is the Solow model growth equation, the equations that have

the natural log form. The values of TFP that we obtained from the equation estimations are always positive with large values.

We did not put variable time ('t') into the equation because we argue that including the time variable actually does not have solid theoretical foundations. The argument of putting 't' in the equation was basically so that the coefficient would represent the average TFP growth per year. However, by putting the time variable we would also implicitly assume that GDP per worker would also depend on variable t, which is not strongly supported by the theory. Therefore, we would rather define the 'constant' as the TFP growth for the 29 years of observation (where ln A= dA/A[170]).

All of our equations give positive and significant results for TFP growth. In a way, our TFP growth estimation would refute the Krugman and Young hypothesis that most East Asian growth was merely 'input-driven' without any increase in productivity. Several scholars, like van der Eng (2001) have also calculated TFP using a simpler method and came out with a conclusion that TFP have contributed 39% of Indonesia's GDP growth from 1967-97 (table 5-15).

[170] 'A' also could be defined as the general measure of efficiency (including technology and institutions) (Frankema and Lindblad 2005).

Table 5-15 Contribution of key inputs and total factor productivity to GDP growth, 1940-97

	Labor force (millions)	Capital Stock	GDP	Contribution to GDP Growth	
		(bln 1983 rupiah)		Labor and capital	Total factor productivity
1940	26.7	45.6	22.8		
1967	32.6	60.5	26.8		
1997	88.3	634.8	208.9		
Average annual growth					
1940-67	0.7%	2.8%	1.2%	115%	-15%
1967-97	2.7%	8.1%	7.1%	61%	39%

Source: van der Eng (2001). Note: labor and capital contribution to GDP growth calculated assuming income shares of, respectively, 70 and 30 percent in GDP, TFP is residual.

Indeed, despite its dismal growth performance since the 1997 economic crisis, Indonesia has still been regarded as one of the 'miracles', as stated by Durlauf, Johnson and Temple (2005) and as shown in Table 5-16. As such, though probably the economic performance of Indonesia was not as good as its East Asian neighbors, it is more plausible to regard that an existence of TFP increment has indeed existed.

Table 5-16 Fifteen Growth Miracles Economies, 1960-2000

Country	Growth 1960-2000	Factor increase*
Taiwan	6.25	11.3
Botswana	6.07	10.6
Hong Kong	5.67	9.09
Korea, Republic of	5.41	8.24
Singapore	5.09	7.29
Thailand	4.50	5.83
Cyprus	4.30	5.39
Japan	4.13	5.04
Ireland	4.10	5.00
China	3.99	4.77
Romania	3.91	4.63
Mauritius	3.88	4.58
Malaysia	3.82	4.48
Portugal	3.48	3.93
Indonesia	3.34	3.72

Note: * the ratio of GDP per worker in 2000 to that in 1960.
Source: Durlauf, Johnson and Temple (2004).

The source of increment in TFP could be narrowed down into two main sources, from labor and capital. Looking at the simple proxy for capital and labor productivity as GDP/Capital[171] and GDP/worker respectively, we would get Figure 5-5. Looking at the trend, it is more reasonable to expect that the source of TFP growth would be coming from labor, since capital productivity has been declining since 1973, while labor productivity has been steadily increasing since 1965 and has only halted after 1997.

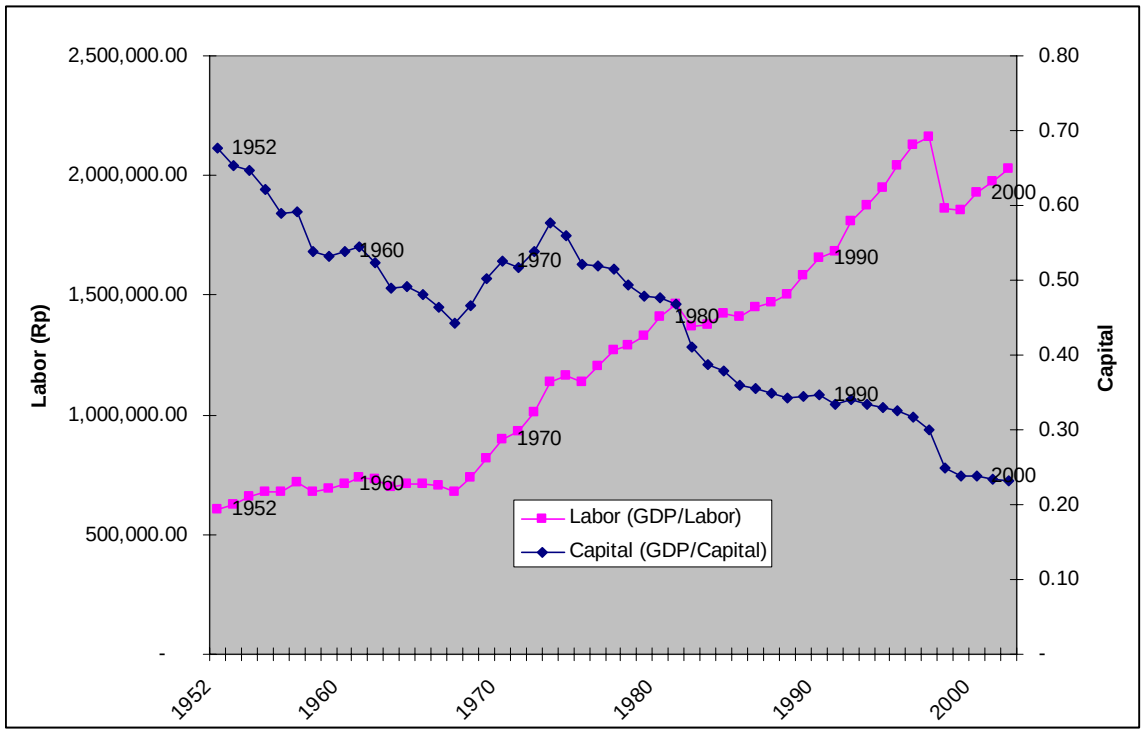
For the low productivity of capital in Indonesia, van der Eng (2005: 9) noted:

> The ratio of capital stock and GDP indicated that the increase in GFCS (Gross Fixed Capital Formation) during 1990-97 was so substantial, that the productive capacity most likely expanded to levels that were unsustainable, contributing to the economies woes that engulfed the country during and after the 1997-98 monetary crisis.

[171] The common practice is to use the Capital-Output ratio, instead of the Output-Capital ratio that is used here. However, since our goal is to compare the capital and labor productivity, the Output-Capital ratio was chosen instead.

As such, the high coefficient of capital estimated from our equation should be interpreted carefully. Capital might have a large role to play in the development process, but in order for it to be sustainable, it needs an adequate human capital intact to absorb the level of technology and blend that technology into the domestic economy. Otherwise, the technology would also remain to be 'foreignly' owned, such that when huge capital flight occurs, the technology -along with the capital- left the domestic economy in a devastating condition.

Figure 5-5 Proxy for Capital and Labor Productivity in Indonesia, 1952-2002



Source: Calculated from van der Eng data.

5.6 Concluding Remarks

Capital seems to have a pivotal role for Indonesia's economic growth. It must be remembered, however, that the quality of data would surely affect the estimation results in this chapter. On the other hand, the coffecients on human capital shows weak if not negative correlation with respect to growth. The limitations of aggregate data on the quality and quantity education, and the undisputable fact that most of the laborers in Indonesia only received primary education or less must also be kept in mind in interpretating the results. The results show the need to explore qualitative evidence to assess the relationship between education and growth.

The fact that most capital is and were 'imported' should be emphasised, since that would mean that most of the factors of production were not embedded within the domestic economy and the people.

Chapter 6

Education and Income at the Household Level

The macro analysis is useful to analyze at the aggregate level. However, we would lose many insights by relying too much on aggregated data. This is especially true for a diverse economy and regions like Indonesia. After discussing the macro aspect of education relationship with growth, as discussed in the previous chapter, we now turn to the micro analysis of education and income growth.

One way to analyze the impact of education on income growth is by using a well-known Mincer equation, based on his work in 1974. Mincer equation shows the relationship of wage income with their educational attainment level at the individual or worker level, i.e. the rate of return to education or schooling.

According to Leuween (2005) the measurement of the rate of return is important because it reflects the capacity of a country "to import, implement, and develop new technologies which is seen in some work on growth theories as the basis of long-run economic growth" (p.1). On the other hand, by relating it with the previous chapter, the rate of return to education affects also the Total Factor Productivity growth.

Some of the rates of return to education are provided in the table below.

Table 6-1 Returns to Education in Selected Countries

Country/Sample period	Returns to Each Additional Year of Schooling	Study
Australia	5.1% (males); 5.2% (females)	Trostel, Walker & Woolley (2001)
China/2000	6.40%	Brauw and Rozelle (2002)
Great Britain	12.7% (males); 13% (females)	Trostel, Walker & Woolley (2001)
Hong Kong / 1981	6.10%	Psacharopoulos (1994)
Indonesia / 1995	6.80%	Duflo (2001)
Italy / 1995	4.80%	Brunello (2000)
Japan	7.5% (males); 9.4% (females)	Trostel, Walker & Woolley (2001)
Korea / 1986	13.50%	Ryoo, Nam & Carnoy (1993)
Malaysia / 1988-89	11.30%	Schafgans (2000)
Philippines	11.3% (males); 19.2% (females)	Trostel, Walker & Woolley (2001)
Singapore / 1998	13.10%	Sakellariou (2001)
Taiwan	8,00%	Liu, Hammitt & Lin (2000)
Thailand / 1989	11.50%	Patrinos (1995)
United Kingdom / 1995	5.5% (males); 9.7% (females)	Chevalier & Walker (1999)
United States	7.4% (males); 9.6% (females)	Trostel, Walker & Woolley (2001)
Regions		
Sub-saharan Africa	11.7%	Psacharopoulos and Patrinos (2002)
Asia	9.9%	
Latin America/ Carribean	12.00%	

Source: Low, et. al. (2004).

General Mincer equation could be defined as:

$$\ln W_t = w_t = \beta_0 + \beta_1 * HC_t + \beta_2 * exp_t + \beta_3 * exp_t^2 + \varepsilon_t$$

The wage rate is defined as w_t, 'HC' is measured as mean years of schooling, 'exp' is 'experience' and usually proxied by the age. In the Mincer equation, we do not have the problem of measuring the labor without schooling, since the human capital

aspect of this kind of labor would be captured by the experience variable represented by the age level.

Variable β_1 shows how the human capital variable (measured as years of schooling) affected the growth in wage, or simply known as the 'return for schooling'. Parameter β_1 "designates the marginal effect of schooling in percentage on log wages (as opposed to the internal rate of return)" – it is "a percentage wage increase per additional year of schooling" (Belzil 2005: 4). The same would apply to β_2 and β_3.

This chapter would attempt to analyze the Mincer equation by using two census data, the Sakernas (National Labor Force Survey) 1976 data and the Sakernas 1997 data. The survey is being conducted once a year in August since 2001[172]. Additional insight will be provided by other census data or other secondary data where applicable.

6.1 Analysis of Sakernas 1976 Census Data

Applying the model to the Sakernas 1976 census data at the national level we would get the following result for the parameters in Box 6-1. Variable 'HC' refers to 'schooling', while 'age' refers to 'experience', and 'X^2' refers to the quadrat of 'age'.

Box 6-1 Mincer Regression, Sakernas 1976 Census Data, National Level

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	3	3385.99551	1128.66517	2207.160	0.0001
Error	12935	6614.51090	0.51137		
C Total	12938	10000.50641			

Root MSE	0.71510	R-square	0.3386
Dep Mean	4.89153	Adj R-sq	0.3384
C.V.	14.61911		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
INTERCEP	1	2.583368	0.04417474	58.481	0.0001
HC	1	0.104855	0.00155901	67.258	0.0001
EXP	1	0.078957	0.00241552	32.687	0.0001
EXP^2	1	-0.000787	0.00003100	-25.371	0.0001

Source: calculated by author.

A value of 0.10 in β_1 would mean that an additional year of schooling would increase the monthly income of workers by 10%[173]. It must be remembered that this Mincer equation is only able to explain 34% of the variation in income growth (as shown by the value of R^2). In turn a value of β_2 would mean that an additional year of experience would increase the monthly income of workers by 7%.

Another way of calculating the return to schooling is to calculate the mean (average) income from each worker based on their educational qualifications and then compare the difference of income with other workers with different educational qualifications (i.e. elementary, secondary, senior secondary, etc.). Using the same restricted data from Sakernas 1976, we would get the following result. The result was similar with the Mincer regression, with the additional fact that return to tertiary level was higher than other level of education.

[172] For a detailed description on Sakernas and other census data on Indonesia, read BPS (2004).
[173] A study by Raut and Tran (1998) calculate the Mincer equation by using the Indonesian Family Life Survey (IFLS) 1997 data and found that the return to education was 9.4%,

Table 6-2 Return to Schooling, Sakernas 1976 Census Data, National Level

Schooling Categories	N	Monthly Wage	Human Capital	Age	Return to Schooling
No schooling	1,997	96.38	0	43.3325	
Not complete elementary	3,154	134.02	3	34.68421	13%
Elementary school	3,734	180.37	6	33.79646	12%
Junior secondary	1,732	252.84	9	33.54503	13%
Senior Secondary	1,895	301.01	12	32	6%
College graduates	303	478.44	15	35.57426	20%
Universty Graduates	160	745.4	17	37.20625	28%

Source: calculated by author.

The summary of the 1976 census data used in the Mincer equation is given in Table 6-3.

Table 6-3 Summary of Data Characteristics in 1976 Sakernas, National Level

Variable	N	MIN	MAX	MEAN	STD
Average monthly wage	12,939	1	12,250	197.44	276.71
Human Capital (years of schooling)	12,975	-	17	5.97	4.19
Age	12,975	10	99	35.27	12.62

Source: calculated by author.

Running the model based on urban and rural areas we would get the following result in box 6-2.

Box 6-2 Mincer Regression, Sakernas 1976 Census Data, Urban Level

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	3	3325.71449	1108.57150	2156.368	0.0001
Error	12425	6387.59220	0.51409		
C Total	12428	9713.30670			

Root MSE	0.71700	R-square	0.3424
Dep Mean	4.89923	Adj R-sq	0.3422
C.V.	14.63500		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
INTERCEP	1	2.573160	0.04524322	56.874	0.0001
HC	1	0.105392	0.00158155	66.639	0.0001
EXP	1	0.079484	0.00247554	32.108	0.0001
EXP^2	1	-0.000792	0.00003179	-24.913	0.0001

Source: calculated by author.

Box 6-3 Mincer Regression, Sakernas 1976 Census Data, Rural Level

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	3	53.44986	17.81662	41.917	0.0001
Error	506	215.07137	0.42504		
C Total	509	268.52123			

Root MSE	0.65195	R-square	0.1991
Dep Mean	4.70397	Adj R-sq	0.1943
C.V.	13.85964		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
INTERCEP	1	2.874252	0.19804347	14.513	0.0001
HC	1	0.069317	0.00987430	7.020	0.0001
EXP	1	0.070009	0.01068558	6.552	0.0001
EXP^2	1	-0.000710	0.00013566	-5.233	0.0001

Source: calculated by author.

The characteristics of urban-rural data is given below:

Table 6-4 Summary of Data Characteristics in 1976 Sakernas, Urban and Rural Level

Rural / Urban	Characteristic	Average Monthly Wage	Human Capital	Age
URBAN	N	12,429.00	12,465.00	12,465.00
	MIN	1.00	-	10.00
	MAX	12,250.00	17.00	99.00
	MEAN	199.79	6.00	35.26
	STD	281.36	4.23	12.61
RURAL	N	510.00	510.00	510.00
	MIN	5.00	-	13.00
	MAX	750.00	12.00	83.00
	MEAN	140.13	5.12	35.43
	STD	99.87	3.01	12.70

Source: calculated by author.

It seems that the return for schooling in rural areas is lower than their urban counterpart, 7% compared with 11%. The same applies to the experience parameter (as shown by the age level ('exp')). In rural areas, experience affected the workers' income more than schooling did.

Urban areas have higher average wages way above their rural counterparts, more than twice as high. The mean years of education in urban areas also a little bit higher, 6 years (elementary education) compared with 5 years in the rural sector.

Another way of measuring the difference in return for education for urban and rural areas is by inserting a dummy variable in the engel function. Doing just that, with D=1 for rural and D=0 for urban, we would get the following result. The coefficient for rural dummy variable has a value of -0.23; meaning that a rural environment lowered the return on schooling by 0.23.

Box 6-4 Mincer Regression, Sakernas 1976 Census Data, Dummy Variable

```
Model: MODEL1
Dependent Variable: LNW
                                     Analysis of Variance

                                        Sum of          Mean
               Source          DF      Squares        Square      F Value       Prob>F

               Model            4   3661.47046     915.36762     1742.966       0.0001
               Error        13338   7004.82544       0.52518
               C Total      13342  10666.29590

                   Root MSE       0.72469     R-square       0.3433
                   Dep Mean       4.86817     Adj R-sq       0.3431
                   C.V.          14.88633

                                     Parameter Estimates

                              Parameter      Standard    T for H0:
             Variable  DF      Estimate         Error   Parameter=0    Prob > |T|

             INTERCEP   1      2.553388    0.04445949        57.432        0.0001
             HC         1      0.108229    0.00156430        69.187        0.0001
             EXP        1      0.078862    0.00241655        32.634        0.0001
             EXP²       1     -0.000783    0.00003091       -25.332        0.0001
             D          1     -0.225623    0.02856825        -7.898        0.0001
```

Computing the return to schooling using categories of the education level being completed, we would get similar result of the Mincer regression, given in Tables 6-5 and 6-6. What is apparent was that the Census data was highly biased towards urban areas, and also the fact that no worker with a college or university education was captured in the sample of 1976 census data.

Table 6-5 Return to Schooling, Sakernas 1976 Census Data, Urban Level

Level of Education	N	MONTHLY WAGE	HUMAN CAPITAL	AGE	Return to Schooling
No schooling	1946	96.33	0	43.28314	
Not complete elementary	2989	134.28	3	34.65373	13%
Elementary school	3521	183.02	6	33.82874	12%
Junior secondary	1687	254.92	9	33.52697	13%
Senior Secondary	1859	302.46	12	31.90802	6%
College graduates	303	478.44	15	35.57426	19%
Universty Graduates	160	745.4	17	37.20625	28%

Source: calculated by author.

Table 6-6 Return to Schooling, Sakernas 1976 Census Data, Rural Level

Level of Education	N	MONTHLY WAGE	HUMAN CAPITAL	AGE	Return to Schooling
No schooling	51	98.31	0	45.21569	
Not complete elementary	165	129.25	3	35.23636	10%
Elementary school	213	136.67	6	33.26291	2%
Junior secondary	45	175.09	9	34.22222	9%
Senior Secondary	36	226.06	12	36.75	10%

Source: calculated by author.

Computing the regression model at the provincial level we would see that generally the Java island has better human capital coefficients compared with other island. It seems that all provinces in the island of Java have returns to schooling at 10% or higher, while generally the outer province recorded lower return to schooling. As the island of Java is more urbanized than the outer island, this might further lead to the assessment that returns to schooling in urban areas are better than their rural counterpart.

Table 6-7 Return to Schooling based on Sakernas 1976 data, Provincial Level

PROVINCE	HUMAN CAPITAL	AGE	AGE^2
1 = D. I Aceh	0.10	0.07	0.00
2 = Sumatera Utara	0.07	0.08	0.00
3 = Sumatera Barat	0.10	0.06	0.00
4 = Riau	0.13	0.10	0.00
5 = Jambi	0.07	0.03	0.00
6 = Sumatera Selatan	0.12	0.06	0.00
7 = Bengkulu	0.03	0.09	0.00
8 = Lampung	0.04	0.08	0.00
9 = DKI Jakarta	0.10	0.06	0.00
10= Jawa Barat	0.11	0.06	0.00
11= Jawa Tengah	0.10	0.07	0.00
12= Jawa Tengah	0.11	0.09	0.00
13= Jawa Timur	0.12	0.08	0.00
14= Bali	0.09	0.10	0.00
15= NTB	0.15	0.10	0.00
16= NTT	0.02	0.16	0.00
17= Kalimantan Barat	0.06	0.10	0.00
18= Kalimantan Tengah	0.01	0.09	0.00
19= Kalimantan Selatan	0.05	0.10	0.00
20= Kalimantan Timur	0.03	0.08	0.00
21= Sulawesi Utara	0.14	0.11	0.00
22= Sulawesi Tengah	0.07	0.05	0.00
23= Sulawesi Selatan	0.08	0.08	0.00
24= Sulawesi Tenggara	0.07	0.15	0.00
25= Maluku	0.07	0.09	0.00
26= Irian Jaya	0.08	0.04	0.00

Source: calculated by author.

The characteristics of the provincial data are given in Table 6-8.

Table 6-8 Summary of Data Characteristics in 1976 Sakernas, Provincial Level

Province	N	Average Monthly Wage	Human Capital	Age
1 = D. I Aceh	159.00	209.38	6.48	37.81
2 = Sumatera Utara	640.00	179.75	6.76	34.35
3 = Sumatera Barat	321.00	173.03	5.77	37.46
4 = Riau	232.00	438.06	6.80	35.03
5 = Jambi	172.00	166.24	5.06	34.40
6 = Sumatera Selatan	216.00	220.69	6.68	35.61
7 = Bengkulu	32.00	149.78	5.25	35.25
8 = Lampung	104.00	192.93	5.87	36.61
9 = DKI Jakarta	2010.00	295.84	6.57	34.27
10= Jawa Barat	1645.00	176.33	6.20	35.01
11= Jawa Tengah	2201.00	141.58	5.30	36.62
12= Jawa Tengah	364.00	129.60	5.52	36.90
13= Jawa Timur	2129.00	149.76	5.38	36.03
14= Bali	636.00	152.20	5.44	32.91
15= NTB	86.00	195.44	5.97	36.55
16= NTT	26.00	255.23	10.54	31.81
17= Kalimantan Barat	164.00	219.97	5.08	34.56
18= Kalimantan Tengah	119.00	212.79	6.20	34.18
19= Kalimantan Selatan	198.00	210.74	5.80	33.79
20= Kalimantan Timur	187.00	342.56	7.33	36.27
21= Sulawesi Utara	173.00	98.23	4.91	32.29
22= Sulawesi Tengah	202.00	204.11	6.41	34.70
23= Sulawesi Selatan	356.00	194.34	5.63	34.56
24= Sulawesi Tenggara	57.00	293.21	5.96	37.74
25= Maluku	288.00	278.97	7.49	36.96
26= Irian Jaya	258.00	311.78	8.01	30.53

Source: calculated by author.

Dividing the data based on the ISIC[174] (International Standard of Industrial Classification of All Economic Activities) sectors, we would get the following result:

[174] For some reference on ISIC, a good starting point is provided in http://www.esds.ac.uk/international/support/user_guides/unido/isic_guide.asp .

Table 6-9 Return to Schooling based on Sakernas 1976 data, ISIC Level

ISIC	HUMAN CAPITAL	AGE	X2
0. Activities not Adequately Defined	0.13	0.18	0.00
1. Agriculture, Hunting, Forestry and Fishing	0.11	0.04	0.00
2. Mining and Quarrying	0.23	0.17	0.00
3. Manufacturing	0.12	0.09	0.00
4. Electricity, Gas and Water	0.09	0.06	0.00
5. Construction	0.08	0.07	0.00
6. Wholesale and Retail Trade and Restaurants and Hotels	0.11	0.06	0.00
7. Transport, Storage and Communication	0.09	0.06	0.00
8. Financing, Insurance, Real Estate and Business Services	0.09	0.19	0.00
9. Community, Social and Personal Services	0.11	0.09	0.00

Source: calculated by author.

It seems that the highest return to schooling occurred in mining sector (23%), and the lowest is in the construction sector (8%). However the sample on mining sector was only 204 (N=204) with a very high wage average of Rp 1.3 million per month. The agricultural sector received the lowest wage average compared with other sectors. The respective characteristics of data based on ISIC categories are given in Table 6-10.

Table 6-10 Summary of Data Characteristics in 1976 Sakernas, ISIC Level

ISIC	N	N (%)	MONTHLY WAGES	HUMAN CAPITAL	AGE
0. Activities not Adequately Defined	52	0.40%	295.00	5.75	31.35
1. Agriculture, Hunting, Forestry and Fishing	614	4.73%	101.98	3.65	34.07
2. Mining and Quarrying	46	0.35%	1306.17	9.89	36.02
3. Manufacturing	1,794	13.83%	166.24	5.53	32.02
4. Electricity, Gas and Water	37	0.29%	303.73	9.51	33.14
5. Construction	639	4.92%	197.38	5.40	33.78
6. Wholesale and Retail Trade and Restaurants and Hotels	3,702	28.53%	195.14	4.61	38.32
7. Transport, Storage and Communication	1,200	9.25%	201.92	5.71	33.53
8. Financing, Insurance, Real Estate and Business Services	92	0.71%	350.67	10.57	32.54
9. Community, Social and Personal Services	4,799	36.99%	207.22	7.47	35.02

Source: calculated by author.

Looking at the characteristics of the Sakernas data based on economic activities (ISIC), the majority of workers actually worked in Trade (29%) and Manufacturing (14%). This could actually represent the fact that most agricultural workers are not paid or that people are working part-time in the agricultural sector.

As the Mincer equation is using a log-form, we must exclude workers that have zero wages in our calculation. To give a complete picture the table below represent the whole sample of Sakernas 1976, grouped based on ISIC occupation categories.

Table 6-11 Summary of Data Characteristics in 1976 Sakernas, ISIC Level, Unrestricted sample

ISIC	N		MONTHLY WAGES	HUMAN CAPITAL	AGE
0. Activities not Adequately Defined	22,136	57.42%	0.24	4.93	26.12
1. Agriculture, Hunting, Forestry and Fishing	3,053	7.92%	20.48	3.42	35.68
2. Mining and Quarrying	46	0.12%	1306.17	9.89	36.02
3. Manufacturing	1,939	5.03%	153.80	5.54	31.58
4. Electricity, Gas and Water	37	0.10%	303.73	9.51	33.14
5. Construction	644	1.67%	195.85	5.39	33.72
6. Wholesale and Retail Trade and Restaurants and Hotels	4,465	11.58%	161.78	4.73	36.70
7. Transport, Storage and Communication	1,211	3.14%	200.09	5.73	33.50
8. Financing, Insurance, Real Estate and Business Services	95	0.25%	339.60	10.65	32.67
9. Community, Social and Personal Services	4,922	12.77%	202.04	7.43	34.81

Source: calculated by author.

From Table 6-11 it is apparent that the wages in agriculture were further dragged down, despite its already receiving the lowest wage. Level of wage in manufacturing was more than 7 times of agriculture, reflecting that most of agricultural workers were actually unpaid or family labor. However, in the level of household, agriculture sector actually has a relatively moderate level of income, as shown in Table 6-12. It shows that agricultural workers tend to group together in larger sized households in order to support their family income and to compensate for the low individual worker's income.

Table 6-12 Household Income Based on the Main Economic Sector, 1976

Economic Sectors (B1CR8K9)	N	N (%)	Monthly Income
1 Agriculture	1712.00	16%	483,314
2 Industry/small business	959.00	9%	551,794
3 Trade	2219.00	21%	526,429
4 Transportation	777.00	7%	284,831
5 Service	1344.00	13%	401,361
6 Other businesses	491.00	5%	650,695
7 Government	1840.00	17%	261,589
8 Income transfer	1206.00	11%	24,642
	10548.00		

Source: calculated by author.

Another possible method of clustering would be dividing them based on the ISCO (International Standard Classification of Occupations) classification. We then obtained the following result of Mincer regressions in Table 6-13.

Table 6-13 Return to Schooling based on Sakernas 1976 data, ISCO Level

ISCO	HUMAN CAPITAL	AGE	X2
0/1 Professional, technical and related workers	0.09	0.16	0.00
2 Administrative and managerial workers	0.05	0.06	0.00
3 Clerical and related workers	0.08	0.13	0.00
4 Sales workers	0.11	0.07	0.00
5 Service workers	0.10	0.05	0.00
6 Agriculture, animal husbandry and forestry workers, fishermen and hunters	0.11	0.04	0.00
7/8/9 Production and related workers, transport equipment operators and laborers	0.09	0.09	0.00

Source: calculated by author.

Looking at the ISCO classification, the highest return to schooling occurred in agriculture, as well as in sales and service workers. The value of return to schooling still ranges between 9%-10%, which was relatively high compared with other countries. The respective characteristics of data based on ISCO categories are given in Table 6-14. Again, agriculture remains at the bottom of average wages compared with other sector.

Table 6-14 Summary of Data Characteristics in 1976 Sakernas, based on ISCO categories

ISCO	N	MONTHLY WAGES	HUMAN CAPITAL	AGE
0/1 Professional, technical and related workers	1212.00	312.02	10.78	35.27
2 Administrative and managerial workers	80.00	845.84	11.01	42.55
3 Clerical and related workers	1743.00	291.95	9.88	34.96
4 Sales workers	3515.00	200.43	4.40	38.98
5 Service workers	1881.00	116.60	4.02	33.54
6 Agriculture, animal husbandry and forestry workers, fishermen and hunters	607.00	101.31	3.59	34.23
7/8/9 Production and related workers, transport equipment operators and laborers	3937.00	158.90	5.35	32.93

Source: calculated by author.

Another category was set up by Central Agency of Statistics (CAS) that also includes the category of family employed workers as 'worker's statuses'. The results of Mincer equation by using the respective categories are reported in Table 6-15.

Table 6-15 Return to Schooling based on Sakernas 1976 data, based on Worker's Status

Worker's Status	HUMAN CAPITAL	AGE	AGE^2
1 = Labor/Employee	0.11	0.08	0.00
2 = Single business ownership	0.10	0.07	0.00
3 = Business establishment hiring other worker(s)	0.12	0.07	0.00

Source: calculated by author.

The respective characteristics of data based on CBS categories are given in Table 6-16.

Table 6-16 Summary of Data Characteristics in 1976 Sakernas, based on Worker's Status

Worker's Status (B2DR3)	N	MONTHLY WAGES	HUMAN CAPITAL	AGE
1 = Labor/Employee	8,788 (68%)	194.90	6.75	33.06
2 = Single business ownership	3,183 (25%)	163.06	4.06	39.27
3 = Business establishment hiring other worker(s)	969 (7%)	333.36	5.20	42.40

Source: calculated by author.

Based on table 6-16, 68% of workers are employees, while 25% constitute as single business ownership while the rest (7%) are business establishment hiring other worker(s). Interestingly enough, those who are employees have higher education compared with the other two categories. This could point to the low entreprenual spirit of workers in Indonesia despite their higher level of education.

6.1.1 Unemployment condition

In understanding the context of return to schooling, we would need to keep in mind two things. First, we need to understand that a significant part of labor in Indonesia was actually considered as 'unpaid labor' or 'family labor' which received zero nominal wages. In 1976 census data, 12% of the workers were family workers that received no wages (this could indicate the condition of underemployment).

Table 6-17 Number of Family Workers in the Sakernas 1976 Census Data

B2DR3	N		MONTHLY WAGES	HUMAN CAPITAL	AGE
1 = Labor/Employee	8,822	53.69%	194.15	6.75	33.05
2 = Single business ownership	3,904	23.76%	132.94	3.90	39.73
3 = Business establishment hiring other worker(s)	1,653	10.06%	195.42	4.39	43.09
4 = Family workers with zero wages	2,041	12.42%	0.00	4.44	27.39
5 = Social worker	10	0.06%	0.00	10.60	43.20

Source: calculated by author.

In addition, almost half (43%) of the labor force actually was not working. Those who were actually looking for jobs stood at 2% of the labor force, which is the

unemployment rate. The 25% of the labor force were going to school and the other 24% devoted their time to manage their household. In addition, almost 7% of the workers have more than one job.

Table 6-18 Number of people who were not working in the Sakernas 1976 Census data

Working in the past 12 months? (B2HR1A)	N	N(%)	MONTHLY WAGES	HUMAN CAPITAL	AGE
No	22,136	57.42%	0.65	4.92	26.05
Yes	16,406	42.56%	154.86	5.55	35.04

Source: calculated by author.

Table 6-19 Reasons for not working, Sakernas 1976 Census data

Reasons for not working	N	N(%)	MONTHLY WAGES	HUMAN CAPITAL	AGE
1 = Looking for job	855	2.22%	4.87	7.50	21.63
2 = Going to school	9,555	24.79%	0.12	5.51	14.23
3 = Managing the household	9,430	24.46%	0.55	4.40	32.80
4 = retired, crippled, etc.	2,296	5.96%	1.72	3.65	49.18

Source: calculated by author.

Table 6-20 Number of Workers Who Have More than 1 Job

Have more than 1 jobs	N	N(%)	MONTHLY WAGES	HUMAN CAPITAL	AGE
No	15,335	93.47%	157.88	5.58	34.81
Yes	1,071	6.53%	111.61	5.25	38.44

Source: calculated by author.

6.2 Analysis of Sakernas 1997 Census Data

Some would have questioned the choosing of 1997 as the year of analysis, because it might be distorted by the 1997 crisis. However, as shown below, the unemployment figures have not yet shown drastic change in 1997 – signaling that the effect of crisis has not been recorded in this national census data.

Table 6-21 Unemployment, Employment and Wages, 1992-1997

Indicator	1992	1993	1994	1996	1997
Open Unemployment:					
% Labor Force 1)	(4.6)	(4.6)	4.4	4.9	4.7
Labor force (in Million)	-	-	3.7	4.4	4.3
Job search duration (months)2)	5.6	5.9	5.9	5.8	5.6
Male	5.4	5.9	6.0	5.7	5.7
Female	5.8	5.9	5.8	5.9	5.4
Underemployment (<35 hours/week) Employment	40.5	39.6	39.2	38.9	36.6
growth	2.7	0.9	3.6	2.2	1.6
Labor force growth	2.9	0.9	5.3	2.5	1.4
Population growth (age 10+)	2.5	2.1	2.8	2.2	1.9
GDP growth	7.3	9.1	7.5	8.0	4.6
Productivity growth	4.5	8.2	3.8	5.7	3.0
Real wages growth	8.6	12.3	0.0	6.6	4.2

Notes :
1)Open unemployment : SAKERNAS figures for 1992 and 1993 not comparable with those for later years due to change in reference time period for defining unemployment. Figures in bracket from National Socio- Economic Survey, SUSENAS.
2) Job search duration : Median job search time in urban areas only (special tabulations produced by CBS).
Source : Annual National Labor Force Survey, SAKERNAS (No survey carried out in 1995) cited from ILO (1998) in Firdausy (1999).

We could also apply the same procedure used previously with the Sakernas 1997 data. For national level, we would get the following Mincer regression results depicted in Box 6-4.

Box 6-5 Mincer Regression, Sakernas 1997 Census Data, National Level

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	3	8980.66762	2993.55587	7328.655	0.0001
Error	42175	17227.33852	0.40847		
C Total	42178	26208.00614			

Root MSE	0.63912	R-square	0.3427
Dep Mean	12.13757	Adj R-sq	0.3426
C.V.	5.26562		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
INTERCEP	1	9.864483	0.02470228	399.335	0.0001
HC	1	0.096592	0.00079039	122.209	0.0001
EXP	1	0.069110	0.00142096	48.636	0.0001
EXP^2	1	-0.000736	0.00001875	-39.251	0.0001

Source: calculated by author.

The Return to Schooling coefficient in 1997 was 9.6%, while 'age' as the proxy for experience has the coefficient of 7%; which is similar with our result using the Sakernas 1976 data. It means that each additional year of schooling resulted in the increase of 9.6% in wage, and additional years of experience would increase the wage by 7%[175]. The data characteristics for the above result are given in Table 6-22.

Table 6-22 Summary of Data Characteristics in 1997 Sakernas

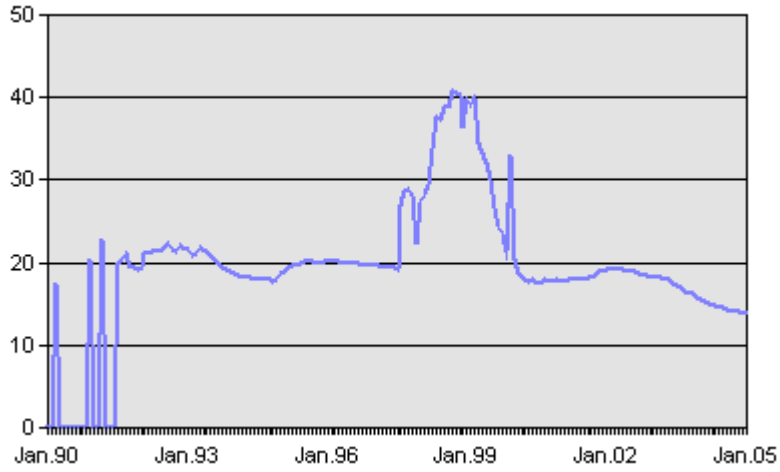
Description	N	MIN	MAX	MEAN	STD
MONTHLY WAGES	42,179	10,000	33,548,622	252,054	382,712
HUMAN CAPITAL	42,179	3	17	9	4
AGE	42,179	10	92	34	12

Source: calculated by author.

We could compare the return to schooling with the return to physical capital, or investment, which is shown by the interest rate. The credit interest rate for investment activities was around 20% in the 1990s, with an inflation rate of around 10% then the real interest rate would be around 10% (Figure 6-1) - which was comparable with the return to schooling.

[175] Hall (2002 :25) has noted that "recent survey shows that the additional year adds 13.4 percent to earnings in sub-Sahara Africa, 10.1 percent in the average country, and 6.8 percent in the well-educated countries making up the Organization for Economic Co-operation and Development (OECD) (United States, Japan, and Western Europe)".

Figure 6-1 Interest Rate of Rupiah Credit, Private National Banks – Invesment (Percent per annum)



Source: Bank Indonesia Statistics, www.bi.go.id .

Using the simple method, return to schooling values were similar with those calculated using the Mincer regression, although return to schooling at senior-secondary level and college graduates seems to have higher figures (Table 6-23).

Table 6-23 Return to Schooling, Sakernas 1997 Census Data, National Level

Level of Education	N	MONTHLY WAGE	HUMAN CAPITAL	AGE	Return to Schooling
Not complete elementary	6,429	129,976.51	3	39.40	
Elementary school	10,787	173,739.77	6	31.81	11%
Junior secondary	6,286	216,538.74	9	30.80	8%
Senior Secondary	13,997	307,638.76	12	32.82	14%
College graduates	2,131	432,822.30	15	36.16	14%
Universty Graduates	2,549	522,597.11	17	36.78	10%

Source: calculated by author.

Applying the Mincer regression based on rural and urban areas we would get the results in Boxes 6-5 and 6-6.

Box 6-6 Mincer Regression, Sakernas 1997 Census Data, Urban Level

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	3	4939.61991	1646.53997	4569.509	0.0001
Error	24755	8920.01764	0.36033		
C Total	24758	13859.63755			

Root MSE	0.60028	R-square	0.3564
Dep Mean	12.30181	Adj R-sq	0.3563
C.V.	4.87958		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
INTERCEP	1	9.823541	0.03242756	302.938	0.0001
HC	1	0.090696	0.00101601	89.267	0.0001
EXP	1	0.074392	0.00188306	39.506	0.0001
EXP^2	1	-0.000758	0.00002496	-30.347	0.0001

Source: calculated by author.

Box 6-7 Mincer Regression, Sakernas 1997 Census Data, Rural Level

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	3	2683.92064	894.64021	1936.173	0.0001
Error	17416	8047.34517	0.46207		
C Total	17419	10731.26581			

Root MSE	0.67975	R-square	0.2501
Dep Mean	11.90413	Adj R-sq	0.2500
C.V.	5.71024		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
INTERCEP	1	10.021243	0.03796286	263.975	0.0001
HC	1	0.090060	0.00141277	63.747	0.0001
EXP	1	0.063215	0.00214590	29.459	0.0001
EXP^2	1	-0.000719	0.00002815	-25.554	0.0001

Source: calculated by author.

It seems that the difference of return to schooling on urban and rural areas were insignificant between 1996 and 1997 data. Using regression estimation with a dummy variable, we find that that there is still significant differences between rural and urban; where a rural environment lowered the return on schooling by 0.13 in the 1997 data. The inequality between rural and urban actually has lowered compared with the 1976 data.

Box 6-8 Mincer Regression, Sakernas 1997 Census Data, Dummy Variable

```
Model: MODEL1
Dependent Variable: LNW
                              Analysis of Variance

                                 Sum of         Mean
        Source          DF      Squares       Square      F Value       Prob>F

        Model            4   9143.56822   2285.89206     5649.481       0.0001
        Error        42174  17064.43792      0.40462
        C Total      42178  26208.00614

            Root MSE       0.63610     R-square       0.3489
            Dep Mean      12.13757     Adj R-sq       0.3488
            C.V.           5.24073

                              Parameter Estimates

                     Parameter      Standard    T for H0:
      Variable  DF    Estimate         Error   Parameter=0    Prob > |T|

      INTERCEP   1    9.962866    0.02506967       397.407        0.0001
      HC         1    0.091096    0.00083297       109.363        0.0001
      EXP        1    0.069600    0.00141445        49.207        0.0001
      EXP²       1   -0.000743    0.00001866       -39.834        0.0001
      D          1   -0.133891    0.00667287       -20.065        0.0001
```

However, the average wages in the urban areas were significantly higher, Rp 291,498 per month compared with the Rp 195,992 in the rural areas. Also the mean years of schooling was higher in the urban areas with the value of 10 years compared with 7 years in the rural areas. The data characteristics for urban and rural areas are given in Table 6-24.

Table 6-24 Summary of Data Characteristics in 1997 Sakernas, Urban and Rural Level

Location (B1P5)	Characterisic	MONTHLY WAGES	HUMAN CAPITAL	AGE
Urban	N	24,759	24,759.00	24,759.00
	MIN	10,000	3.00	10.00
	MAX	33,548,622	17.00	81.00
	MEAN	291,498	10.23	33.63
	STD	430,702	3.88	11.19
Rural	N	17,420	17,420.00	17,420.00
	MIN	10,000	3.00	10.00
	MAX	33,374,432	17.00	92.00
	MEAN	195,992	7.49	33.73
	STD	292,642	3.75	12.11

Source: calculated by author.

Using the simple method to calculate return to schooling in 1997, we found that return to schooling for elementary and post high-school graduates were higher in the

urban areas, but rural areas have higher return to schooling for junior secondary and senior secondary (Tables 6-25 and 6-26).

This could lead to the conclusion that there is labor migration from rural to urban areas, and this migration has somewhat reduced the discrepancy of education returns in urban and rural areas. The fact remains that both urban and rural requires different characteristics of workers, based on their education. Demand for workers with elementary level of education is higher in urban areas, most probably for vacancies in unskilled level; whereas higher demand for junior secondary and senior secondary in rural areas might lead to the stage of intermediate level of technology in agricultural productivity (table 6-25).

Table 6-25 Four Basic Stages of Agricultural Productivity and Their Learning Reuirements

Agricultural Levels	Farmer Entrepreneurs' Technology Level	Agricultural Inputs	Minimum Learning Requirements
Level A	Traditional farming techniques passed from parent to child.	Local varieties of seeds and implements.	Addition and subtraction not necessarily acquired through formal education.
Level B	Intermediate technology.	Small quantities of fertilizer.	Addition, subtraction, division, and rudimentary literacy.
Level C	Fully improved technology.	High-yielding varieties: proven seeds, rate of application of seed, fertilizer, and pest control per acre.	Multiplication, long division, and other more complex mathematical procedures; reading and writing abilities; rudimentary knowledge of chemistry and biology.
Level D	Full irrigation-based farming.	All above inputs: tubewell access during the off-season, and water rates per acre.	Mathematics, independent written communication, high reading comprehension, ability to research unfamiliar words and concepts; elementary chemistry, biology, physics; regular access to information from print and electronic sources.

Source: Heyneman 1997.

Table 6-26 Return to Schooling, Sakernas 1997 Census Data, Urban Level

Level of Education	N	MONTHLY WAGE	HUMAN CAPITAL	AGE	Return to Schooling
Not complete elementary	2,222	139,737.88	3.00	38.76	
Elementary school	4,582	192,899.59	6.00	32.70	13%
Junior secondary	3,972	225,414.36	9.00	31.61	6%
Senior Secondary	10,213	313,998.05	12.00	32.63	13%
College graduates	1,597	458,501.53	15.00	35.94	15%
Universty Graduates	2,173	546,893.14	17.00	37.02	10%

Source: calculated by author.

Table 6-27 Return to Schooling, Sakernas 1997 Census Data, Rural Level

Level of Education	N	MONTHLY WAGE	HUMAN CAPITAL	AGE	Return to Schooling
Not complete elementary	4207	124820.879	3	39.7352	
Elementary school	6205	159591.445	6	31.15471	9%
Junior secondary	2314	201303.654	9	29.40622	9%
Senior Secondary	3784	290475.058	12	33.33827	15%
College graduates	534	356025.037	15	36.79963	8%
Universty Graduates	376	382184.149	17	35.35106	4%

Source: calculated by author.

Running the Mincer regression on the provincial level we would get the results shown in Table 6-27.

Table 6-28 Return to Schooling, Sakernas 1997 Census Data, Provincial Level

Province	HUMAN CAPITAL	AGE	AGE^2
Dista Aceh	0.09	0.07	0.00
Sumatera Utara	0.07	0.08	0.00
Sumatera Barat	0.07	0.06	0.00
Riau	0.06	0.09	0.00
Jambi	0.08	0.07	0.00
Sumatera Selatan	0.08	0.07	0.00
Bengkulu	0.08	0.09	0.00
Lampung	0.08	0.06	0.00
D K I Jakarta	0.11	0.05	0.00
Jawa Barat	0.10	0.05	0.00
Jawa Tengah	0.10	0.06	0.00
D I Yogyakarta	0.09	0.05	0.00
Jawa Timur	0.10	0.06	0.00
Bali	0.08	0.06	0.00
Nusa Tenggara Barat	0.11	0.07	0.00
Nusa Tenggara Timur	0.10	0.10	0.00
Timor Timur	0.07	0.18	0.00
Kalimantan Barat	0.06	0.08	0.00
Kalimantan Tengah	0.05	0.09	0.00
Kalimantan Selatan	0.06	0.08	0.00
Kalimantan Timur	0.05	0.10	0.00
Sulawesi Utara	0.09	0.06	0.00
Sulawesi Tengah	0.08	0.10	0.00
Sulawesi Selatan	0.09	0.07	0.00
Sulawesi Tenggara	0.07	0.12	0.00
Maluku	0.06	0.09	0.00
Irian Jaya	0.09	0.08	0.00

Source: calculated by author.

Again, there was a tendency that the return to schooling would be generally higher in the main island of Java. In contrast, the outer islands seem to have age coefficients that have higher values than return to schooling coeffiocients, which indicate that level of experience affects income quite significantly compared with their Java counterparts. The data characteristics for the Provincial Mincer regression is given in Table 6-28.

Table 6-29 Summary of Data Characteristics in 1997 Sakernas

Province	N	MONTHLY WAGES	HUMAN CAPITAL	AGE
Dista Aceh	966	290,300	10.02	34.23
Sumatera Utara	1,902	273,777	9.60	34.07
Sumatera Barat	872	232,055	9.58	34.11
Riau	1,022	353,223	10.33	32.79
Jambi	696	249,187	9.98	32.83
Sumatera Selatan	1,158	228,498	8.89	33.57
Bengkulu	578	241,938	10.34	32.98
Lampung	1,089	204,478	8.75	32.09
D K I Jakarta	3,540	375,086	10.97	32.22
Jawa Barat	5,444	242,676	8.09	33.25
Jawa Tengah	5,381	183,433	7.71	34.46
D I Yogyakarta	1,389	239,521	9.65	35.53
Jawa Timur	6,218	198,492	7.98	34.77
Bali	1,563	242,455	9.64	32.51
Nusa Tenggara Barat	1,131	187,740	8.24	32.15
Nusa Tenggara Timur	798	254,390	10.07	33.67
Timor Timur	343	427,108	10.15	33.45
Kalimantan Barat	1,105	275,871	8.63	32.65
Kalimantan Tengah	504	303,049	10.75	33.36
Kalimantan Selatan	951	264,914	9.67	32.50
Kalimantan Timur	855	337,506	9.68	33.16
Sulawesi Utara	917	227,626	9.73	34.21
Sulawesi Tengah	698	233,640	10.59	33.43
Sulawesi Selatan	1,226	261,410	10.19	33.62
Sulawesi Tenggara	574	281,749	10.91	34.04
Maluku	662	293,486	10.96	35.41
Irian Jaya	597	462,717	10.50	34.77

Source: calculated by author.

Applying the Mincer regression based on sectoral employment classification, we would get the following results in Table 6-29.

Table 6-30 Return to Schooling, 1997 Sakernas, ISIC Level

ISIC	HUMAN CAPITAL	AGE	AGE^2
1 : Agriculture	0.31	0.03	0.00
2: Mining and quarrying	0.30	0.14	0.00
3: Manufacturing Industry	0.24	0.07	0.00
4: Electricity, gas and water	0.14	0.09	0.00
5: Construction/building	0.23	0.05	0.00
6: Trade	0.17	0.09	0.00
7: Transportation, storage and	0.17	0.10	0.00
8: Finance, Insurance, including	0.15	0.08	0.00
9: Services	0.11	0.13	0.00

Source: calculated by author.

It is interesting to note that all return to schooling values, except for the services sector, had a value above 10%, even agriculture has 31% return of schooling! The characteristics of the data used are given in Table 6-30. Mining sector still has the largest income, while agriculture was still at the bottom of wage level.

Table 6-31 Summary of Data Characteristics in 1997 Sakernas, ISIC Level

ISIC	N	MONTHLY WAGES	HUMAN CAPITAL	AGE
1 : Agriculture	5,687	125,014	12.03	36.25
2: Mining and quarrying	672	405,164	12.31	34.02
3: Manufacturing Industry	7,886	232,568	12.14	30.01
4: Electricity, gas and water	319	431,186	12.38	33.52
5: Construction/building	4,540	240,792	12.13	34.04
6: Trade	4,009	232,769	12.31	28.97
7: Transportation, storage and	2,342	289,653	12.16	32.99
8: Finance, Insurance, including	893	443,954	13.34	32.92
9: Services	15,827	288,993	12.89	35.79

Source: calculated by author.

Using an unrestricted sample, the data characteristics of Sakernas 1997 census is given in Table 6-31.

Table 6-32 Summary of Data Characteristics in 1997 Sakernas, ISIC level, unrestricted

ISIC	N	MONTHLY WAGES	HUMAN CAPITAL	AGE
1 : Agriculture	49,182	14,455.59	5.19	38.64
2: Mining and quarrying	1,309	207,998.50	6.78	34.50
3: Manufacturing Industry	14,390	127,451.63	7.27	33.11
4: Electricity, gas and water	363	378,921.42	11.12	33.97
5: Construction/building	5,774	189,330.86	7.28	34.81
6: Trade	24,312	38,383.11	7.31	36.95
7: Transportation, storage and	5,581	121,549.22	7.70	34.15
8: Finance, Insurance, including	956	414,697.58	12.42	33.79
9: Services	19,668	232,555.38	10.42	36.41

Source: calculated by author.

It seems that the number of unpaid workers of family workers again is still significant, even in 1997. To calculate the number of family workers or unpaid workers from the Sakernas 1997 census, we would get the results in Table 6-32.

Table 6-33 Sakernas 1997 Data Chracteristics, based on Worker's Status

Worker's Status (B4P11)	N	MONTHLY WAGES	HUMAN CAPITAL	AGE
n.a.	97,898	0.00	6.39	27.05
1= self-employed	27,782	0.00	6.07	40.03
2= self-employed with the help of unpaid or part-time worker(s)	25,000	0.00	5.63	43.59
3=business owner with the help of paid worker(s)	2,229	0.00	8.03	39.79
4=workers receiving wages	42,179	252,053.78	9.10	33.67
5=unpaid workers	24,351	0.00	5.80	31.29

Source: calculated by author.

The number of unpaid workers was more than half of paid workers used in deriving the Mincer regression in 1997. What is important also was the fact that those who were self-employed actually being recorded as having zero wages, which would made them excluded from the Mincer regression.

6.2.1 Unemployment condition

Using the unrestricted Sakernas 1997 census data we could also assess the condition of unemployment, as shown in Table 6-33.

Table 6-34 Main Occupation or Activities, Sakernas 1997

Activities (B4P4B)	N	N (%)	MONTHLY WAGES	HUMAN CAPITAL	AGE
1 = working	100,771	45.92%	102,009.95	7.26	37.08
2 = school	46,111	21.01%	373.54	5.98	14.07
3 = housework	50,372	22.95%	2,676.21	6.31	37.06
4 = looking for job	2,879	1.31%	2,946.51	10.62	22.62
5 = others	19,306	8.80%	9,904.59	6.29	41.63

Source: calculated by author.

The number of people looking for job was only 1.31%, which is even lower than the national figures. It must also be remembered when we say 'unemployment', we are actually saying different thing compared with the usual definition. The low unemployment figures thus do not represent the welfare of those people who are unemployed. As Dhanani (2004 :1) noted:

> The traditional view of developing country unemployment is that it is of minor importance, because it affects mainly members of relatively well-off families who can afford a long job search to obtain suitable formal sector employment.

What is most important, as Dhanani (2004) also emphasise, was working long hours without or with minimum pay.

6.3 Education in household expenditures, consumption or expenditures?

Education is actually both consumption and investment, and it is relatively difficult to isolate the two. If education were being perceived to bring a high return in the form of higher income, household would not mind spending on it and to see it as investment. However, if education were to be seen only as consumption, like consumption for food, it would reach a point of saturation whereby as income grows people would spend less on it.

Taking the issue above as our point of departure, we would use the household survey data to see how the share of education spending reacted as spending increases. The Engel law postulates that as income rises, the share of food on household spending would decrease. And this law has been considered one of the reasons why manufacturing, instead of agriculture, should be the engine of growth. Also the Engel law seems to support Chenery-Syrquin observation that as an economy develops, the share of agriculture in national income would decrease and the share of manufacturing and services sector would increase.

Using the above analogy, we could apply the same reasoning for education expenditures. If education were perceived merely as consumption, its share of expenditure would decrease as income rises and vice versa.

In this section, we would run regressions on Engel curve equation using the household data. The earliest Susenas data that we had is the 1987 data. As such, we would use that as a starting point and compared it with the 1997 data.

As income data -although it is available in the census data- is seen as less accurate[176], total expenditure is often used as a proxy for income. The Engel curve specification that we are using is in quadratic form[177]:

$$y_i = \beta_0 + \beta_1 z_i + \beta_2 z_i^2 + \phi r_i + \in_i$$

where y = budget share of food or expenditure, z = log of total household expenditure, r = household size, and ε is stochastic term.

6.3.1 Analysis of Susenas 1987 and 1997 data.

Applying the Engel equation for food, non-food and education expenditure we would get the following results in Boxes 6-9 to 6-11.

Box 6-9 Engel Curve for Food Spending estimation based on Susenas 1987 data, National level

Model: MODEL1
Dependent Variable: FOOD

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	3	103.05483	34.35161	2921.924	0.0001
Error	14520	170.70443	0.01176		
C Total	14523	273.75926			

Root MSE	0.10843	R-square	0.3764
Dep Mean	0.64054	Adj R-sq	0.3763
C.V.	16.92743		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
INTERCEP	1	-3.578008	0.21000358	-17.038	0.0001
z	1	0.829096	0.03556950	23.309	0.0001
r	1	0.019617	0.00047453	41.340	0.0001
z^2	1	-0.040766	0.00150167	-27.147	0.0001

Source: calculated by author.

[176] It is because people tend to have tendencies to cover their true income. In 1987 Susenas data, the income data is generally smaller than the expenditure data, which somewhat confirm this tendencies.
[177] This form has been used, for example by Girma and Kedir (2003) in analyzing the Ethiopian household survey. For discussions of structural form, one could read Lim (1968).

Box 6-10 Engel Curve for Non-Food Spending estimation based on Susenas 1987 data, National level

Model: MODEL2
Dependent Variable: NFD

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	3	103.05483	34.35161	2921.924	0.0001
Error	14520	170.70443	0.01176		
C Total	14523	273.75926			

Root MSE	0.10843	R-square	0.3764
Dep Mean	0.35946	Adj R-sq	0.3763
C.V.	30.16419		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
INTERCEP	1	4.578008	0.21000358	21.800	0.0001
z	1	-0.829096	0.03556950	-23.309	0.0001
r	1	-0.019617	0.00047453	-41.340	0.0001
z^2	1	0.040766	0.00150167	27.147	0.0001

Source: calculated by author.

Box 6-11 Engel Curve for Education Spending estimation based on Susenas 1987 data, National level

Model: MODEL3
Dependent Variable: EDUP

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	3	0.83830	0.27943	143.954	0.0001
Error	14520	28.18508	0.00194		
C Total	14523	29.02337			

Root MSE	0.04406	R-square	0.0289
Dep Mean	0.03069	Adj R-sq	0.0287
C.V.	143.57190		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
INTERCEP	1	-0.165994	0.08533239	-1.945	0.0518
z	1	0.021917	0.01445323	1.516	0.1294
r	1	0.000054027	0.00019282	0.280	0.7793
z^2	1	-0.000439	0.00061019	-0.719	0.4721

Source: calculated by author.

Looking at the above results, spending on food actually increases as income rises, which is actually a contradiction to the Engel law. However, the positive coefficients were also found in other developing countries, like in Ethiopia (Girma and Kedir 2003). A 10% increase in income would increase food-spending share by 8.3 percent. In contrast, for non-food spending (where education expenses are also categorized as non-food expenditures) the sign of the coefficient is negative, where a

10% increase in income would result in a decrease of non-food expenditures by 8.3 percent.

Despite that, the coefficient on education spending is marginally positive, with an increase of 2% education share in spending should income rise by 10%. However, it must be noted that the R^2 value is very low for the equation. The reason is that because of the very low share of education expenses in the 1987 Susenas data, recorded at an average of 3.58%. For complete data characteristics for the 1997 Susenas data used in the engel curve, refer to table 6-34.

Table 6-35 Susenas 1997 Data Characteristics for the Engel Curve

	MEAN	
Education expenditure share in total expenditure (EDUX)	5,508.78	3.58%
Monthly Expenditures (V2D2)	153,817.66	100.00%
Monthly Food Expenditures V2D3	89,300.13	58.06%
Monthly Non-Food Expenditures (V2D4)	64,517.53	41.94%
Monthly Income Average (V4AK07)	118,924.08	77.31%
Household size (ART)	6.01	
N	14,524.00	

Source: calculated by author.

Several functional forms of Engel curve suggested in Lim (1968) were tried as well for the education expenditures, with similar if not worst result in terms of statistical significance. As such, it would be better to provide the descriptive statistics by grouping the sample into 10 groups (decile) based on total expenditures. Doing just that, we would get the results in Table 6-35.

Table 6-36 Means of Education, Food, and Non-Food Expenditures based on Decile of Total Expenditures, Susenas 1987

Decile	Education expenditure share (%)	Food expenditure share (%)	Non-Food Expenditure share(%)	Monthly Expenditures	Household size
0	1.91	70.29	29.71	43,297.88	4.26
1	2.24	70.30	29.70	62,134.26	5.08
2	2.27	70.56	29.44	76,936.97	5.43
3	2.77	69.21	30.79	92,204.29	5.72
4	2.77	67.93	32.07	108,629.43	5.98
5	3.06	66.07	33.93	128,797.68	6.23
6	3.41	62.68	37.32	154,403.11	6.36
7	3.84	59.92	40.08	189,582.57	6.62
8	4.05	56.23	43.77	244,216.29	6.95
9	4.38	44.34	55.66	438,005.73	7.46

Source: calculated by author.

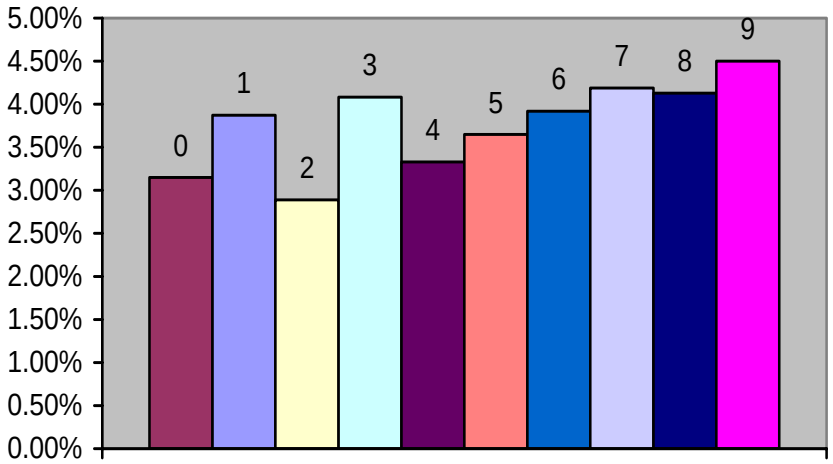
Actually, based on the descriptive data, the pattern of Engel law could be said to have existed as well. For food expenditures, the share started to decline after the 4th decile, while for non-food expenditures it started to increase after the 3rd decile. In contrast, education expenditures seem to show constant improvement –however small- as we move up the total expenditure ladder.

Dividing the census data based on urban and rural categories, and grouped them on a 10 decile groupings based on total expenditures, we would get the results in Table 6-36 and 6-37. In urban areas, the food expenditures started to decline after the 3rd decile, while non-food expenditure statrted to rise generally after the second decile. The trend of education expenditure share seems to be varied, with ups and down, but generally, the trend is increasing after the fourth decile.

One other interesting point was that the share of education expenditures was higher in urban areas than in rural areas. This could point to two possibilities. One, the cost of schooling was simply higher in urban areas. Two, education matters more in urban areas – either because it was simply required by employee (shows the dominance

of formal sector in urban areas or the demand for more skilled labor), or because it provided higher returns due to the availability of employment opportunities.

Figure 6-2 Education Share in Total Expenditures, based on Decile of Total Expenditures, Urban Areas, Susenas 1987



Source: calculated by author.

Table 6-37 Means of Education, Food, and Non-Food Expenditures based on Decile of Total Expenditures, Susenas 1987, Urban Areas

Decile	N	Education expenditure share (%)	Food expenditure Share (%)	Non-Food expenditure share (%)	Monthly Expenditures	Household size
0	117	3.15	66.61	33.39	45,257.64	4.01
1	185	3.87	64.12	35.88	61,886.09	4.64
2	283	2.89	65.41	34.59	77,481.01	4.99
3	419	4.08	64.75	35.25	92,522.02	5.45
4	548	3.33	63.29	36.71	109,096.28	5.65
5	643	3.65	61.83	38.17	128,962.51	5.90
6	834	3.92	59.62	40.38	154,852.86	6.14
7	955	4.19	57.72	42.28	189,871.76	6.42
8	1098	4.13	55.05	44.95	244,556.52	6.87
9	1236	4.50	46.72	53.28	438,806.25	7.45

Source: calculated by author.

Table 6-38 Means of Education, Food, and Non-Food Expenditures based on Decile of Total Expenditures, Susenas 1987, Rural Areas

Decile	N	Education expenditure share (%)	Food expenditure Share (%)	Non-Food expenditure share (%)	Monthly Expenditures	Household size
0	1335	1.80	70.56	29.44	43,126.13	4.29
1	1268	2.01	71.16	28.84	62,170.47	5.15
2	1169	2.11	71.81	28.19	76,805.27	5.54
3	1033	2.24	71.04	28.96	92,075.42	5.83
4	905	2.43	70.80	29.20	108,346.74	6.18
5	809	2.59	69.46	30.54	128,666.67	6.49
6	619	2.72	66.90	33.10	153,797.15	6.66
7	497	3.20	64.28	35.72	189,026.88	7.00
8	355	3.80	60.41	39.59	243,163.98	7.21
9	216	3.51	49.62	50.38	433,424.97	7.51

Source: calculated by author.

Applying the Engel curve equation to the 1997 Susenas data, we would get the results depicted in Box 6-10 to Box 6-12. Apparently, the result is similar with the 1987 result, with a positive income elasticity of demand for food expenditure, and a negative one for non-food expenditure. The elasticity coefficient for education expenditure is negative, with a very low R^2 value.

Box 6-12 Engel Curve for Food Spending estimation based on Susenas 1997 data, National level

Model: MODEL1
Dependent Variable: FOOD

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	3	951.89942	317.29981	24077.146	0.0001
Error	207347	2732.51506	0.01318		
C Total	207350	3684.41447			

Root MSE	0.11480	R-square	0.2584
Dep Mean	0.66475	Adj R-sq	0.2583
C.V.	17.26922		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
INTERCEP	1	-4.314084	0.06331817	-68.133	0.0001
z	1	0.906866	0.01023238	88.627	0.0001
r	1	0.021329	0.00015126	141.006	0.0001
z^2	1	-0.041355	0.00041249	-100.258	0.0001

Source: calculated by author.

Box 6-13 Engel Curve for Non-food Spending estimation based on Susenas 1997 data, National level

Model: MODEL2
Dependent Variable: NFD

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	3	951.89942	317.29981	24077.146	0.0001
Error	207347	2732.51506	0.01318		
C Total	207350	3684.41448			

Root MSE	0.11480	R-square	0.2584
Dep Mean	0.33525	Adj R-sq	0.2583
C.V.	34.24256		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
INTERCEP	1	5.314084	0.06331817	83.927	0.0001
z	1	-0.906866	0.01023238	-88.627	0.0001
r	1	-0.021329	0.00015126	-141.006	0.0001
z^2	1	0.041355	0.00041249	100.258	0.0001

Source: calculated by author.

Box 6-14 Engel Curve for Education Spending estimation based on Susenas 1997 data, National level

Model: MODEL3
Dependent Variable: EDUP

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	3	39.02649	13.00883	3070.563	0.0001
Error	207347	878.45180	0.00424		
C Total	207350	917.47829			

Root MSE	0.06509	R-square	0.0425
Dep Mean	0.02518	Adj R-sq	0.0425
C.V.	258.50239		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
INTERCEP	1	0.248869	0.03590096	6.932	0.0001
z	1	-0.056637	0.00580169	-9.762	0.0001
r	1	0.001878	0.00008577	21.897	0.0001
z^2	1	0.003071	0.00023388	13.131	0.0001

Source: calculated by author.

Grouping the sample data based on total expenditure ranking in 10 decile groups, we would get the following data descriptions in Table 6-38.

Table 6-39 Means of Education, Food, and Non-Food Expenditures based on Decile of Total Expenditures, Susenas 1997

Decile	N	Education expenditure share (%)	Food expenditure share (%)	Non-Food expenditure share (%)	Monthly Expenditures (%)	Household size
0	20734	0.68	69.27	30.73	78546.60	2.30
1	20736	1.23	70.28	29.72	117471.74	3.27
2	20734	1.52	70.35	29.65	143257.53	3.69
3	20737	1.77	69.95	30.05	166243.99	4.02
4	20734	2.14	69.39	30.61	191664.24	4.29
5	20736	2.41	68.80	31.20	220482.67	4.55
6	20735	2.85	67.49	32.51	256031.01	4.78
7	20735	3.22	65.46	34.54	304194.65	4.99
8	20735	3.94	61.93	38.07	383617.98	5.28
9	20735	5.42	51.83	48.17	710326.29	5.62

Source: calculated by author.

In the 1997 data, the share of food expenditure started to decline after the second decile, although only marginally. The significant decline in food expenditure occurred in the sixth decile. The opposite is true for non-food expenditures. In contrast, education expenditures have shown a constant increase beginning in the 0 decile.

Again dividing into rural and urban categories, the education spending was relatively higher in urban areas. The share of education spending was also relatively higher in 1997 compared with 1987.

Table 6-40 Means of Education, Food, and Non-Food Expenditures based on Decile of Total Expenditures, Susenas 1997, Urban Areas

Decile	N	Education expenditure share (%)	Food expenditure share (%)	Non-Food expenditure share (%)	Monthly Expenditures (%)	Household size
0	2673	1.29	65.26	34.74	78,780.05	1.76
1	2963	2.15	65.09	34.91	117,999.83	2.60
2	3613	2.35	64.79	35.21	143,619.23	3.01
3	4205	2.43	64.52	35.48	166,627.42	3.33
4	5173	3.14	64.18	35.82	192,131.51	3.63
5	6092	3.41	63.88	36.12	220,975.66	3.97
6	7442	3.71	62.74	37.26	256,619.90	4.29
7	9320	4.07	61.15	38.85	305,089.96	4.55
8	11534	4.64	58.22	41.78	385,940.28	4.94
9	15569	5.98	49.80	50.20	745,040.61	5.50

Source: calculated by author.

Table 6-41 Means of Education, Food, and Non-Food Expenditures based on Decile of Total Expenditures, Susenas 1997, Rural Areas

Decile	N	Education expenditure share (%)	Food expenditure share (%)	Non-Food expenditure share (%)	Monthly Expenditures	Household size
0	18061	0.59	69.86	30.14	78,512.05	2.38
1	17773	1.08	71.15	28.85	117,383.70	3.38
2	17121	1.34	71.53	28.47	143,181.20	3.83
3	16532	1.60	71.34	28.66	166,146.47	4.19
4	15561	1.81	71.13	28.87	191,508.91	4.50
5	14644	1.99	70.85	29.15	220,277.58	4.79
6	13293	2.37	70.15	29.85	255,701.32	5.06
7	11415	2.53	68.98	31.02	303,463.66	5.36
8	9201	3.06	66.58	33.42	380,706.85	5.71
9	5166	3.72	57.92	42.08	605,706.22	5.99

Source: calculated by author.

6.4 Concluding Remarks

The first conclusion would be that return to schooling was sufficiently high in Indonesia, with urban figures relatively higher than rural. Industry or manufacturing provides higher return to schooling, which probably explains the higher return to schooling in urban areas. Higher wages seem to require higher skills, shown by the higher mean years of education in urban areas.

One other important point that seems to be missing in most literature is the still high proportion of labor that was unpaid, which means that a large proportion of the society actually was excluded from the 'formal' labor market. This condition seems to be unchanged from 1976 up to 1997.

These points out the fact that although some parts of Indonesian economy have been 'modernized', a large part of it, especially the rural sector, remains untouched – and probably still in the subsistence or traditional level of economy.

In addition, the low share of education expenditures in the household's budget provides a significant role for parents to improve the quality of education received by their children. Society should refrain from being too dependent on the state; especially when they possess the needed financial resources at their disposal. On the other hand, the state should remain progressive in providing education facilities, especially in the rural-poor areas.

Also one important fact is that the share of education expenditures actually increases as income brackets went up, it shows that society may already have viewed education as a part of investment. Even then, the increment remains relatively small, showing that some sort of structural unemployment where the growth of the economy fails to absorb the growing number of existing labor force.

Chapter 7

Role of Education at the Ideological Level: The Elite, the Masses, and the Entrepreneur

This chapter attempts to explain the effect of education at the ideological and institutional level, which later on would finally affect economic growth. Education affects ideology and culture, both at the elite and at the mass levels, through the creation of knowledge and ideas. At the elite level, we will analyze why the economic policy-making in Indonesia is so 'capitalist' biased, despite the inherent socialist ideology of Indonesian founding fathers like Soekarno and Hatta.

At the level of the masses, we would see the culture and characteristics of the average 'Indonesian Man' (or 'Manusia Indonesia' in bahasa Indonesia). We would also assess the ideology of education in Indonesia. Is education seen merely as a 'noble' activity just as Aristotle did? Alternatively, does education function as a means of improving the skills and welfare of Indonesians? The final goal is to see how does this affect the emergence of 'indigenous' or 'native' entrepreneurs; to relate it with the Schumpeter theory of growth.

At the end of this chapter, we will attempt to see what kind of 'businessmen' has emerged because of the institutionalized moldings of these two ideological views on education. Is the Indonesian national culture[178] shaped by its education has moved towards a more entrepreneurial 'Indonesian Man'?

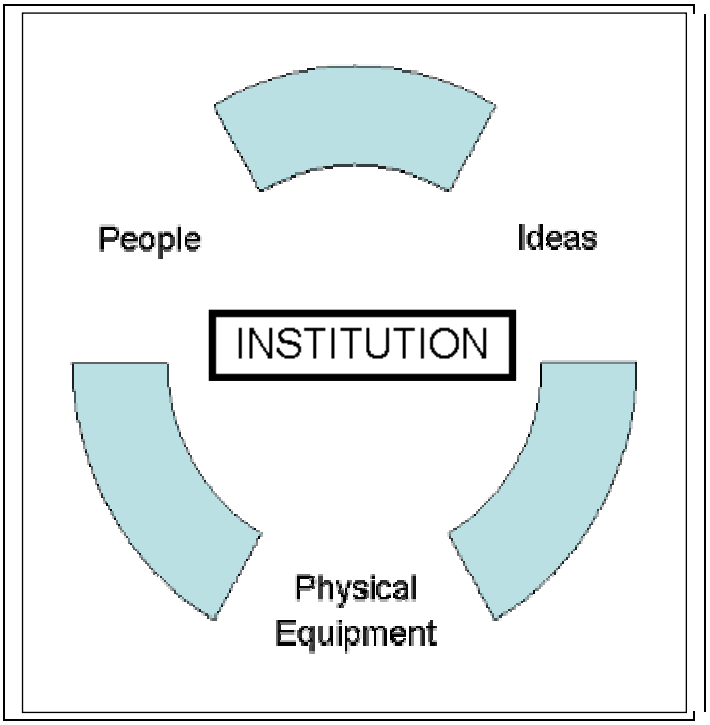
Social science scholars tend to define culture[179] in a broad manner, as a total of mind, creation, and effort produced by humankind that is not based on his instinct, and as such can only be produced by man after a learning process (Koentjaraningrat 1974: 1).

While institution, according to Koentjaraningrat (1974: 15), was supported by three triangular forms of culture: ideas, people, and physical tool; as described in Figure 7-1.

[178]Pidarta (2000: 158) quoting Manan (1989) listed five components of culture as: ideas, ideology, norm, technology and things. Koentjaraningrat (1974: 5) mentions that culture has at least three forms: ideas, activties and material things.

[179]Culture in Indonesian language is spelled as 'budaya'. 'Budaya' originated from a sankrit word, 'budi' (mind, thoughts) and 'daya' (effort). (Koentjaraningrat 1974: 9). While Alghatam (2005: 3) wrote that "Culture is the fruit of human civilization, in both material and non-material aspects. It includes technology and its related sciences, as well as culture in the narrow sense of the word, which means arts, literature and heritage, including religion."

Figure 7-1 Ideas, People and Institution



Source: Adapted from Koentjaraningrat (1974: 15).

Again, it would be interesting, as we have noted from the previous chapter, to see how the education sector or the school functions as a 'miniature' of the Indonesian state. The similarity between 'education' and the 'state' probably could be traced back to Plato's conception of education, as quoted by Kartono (1997: 26):

> According to Plato, the ultimate goal of education is identical with that of the state and of mankind; that is to become a good citizen and man, to build a prosperous and justice society.

7.1 Education Ideology in Indonesia

During Indonesian independence, several laws concerning education were established. Law no. 4/1950, Law no. 12/1954, Law no. 2/1989, and the latest Law no.

20/2003. Law no. 2/1989 was seen as the main regulation covering the education sector during Soeharto's administration.

In GBHN (*Garis-garis Besar Haluan Negara* - Broad Outlines of State Policy) 1993, it was explained that the goal of the education sector policy was to improve the quality of Indonesian Man, that is a person that is faithful to God, civilized, has his/her own personality, self-sufficient, advanced, intelligent, creative, skilled, discipline, have work-ethic, professional, responsible, productive and healthy (Pidarta 2000: 11).

Law no. 2/1989 defines education as a conscious effort to prepare a student through counseling, teaching and/or other practical activities for his/her role in the future (Pidarta 2000: 10). An earlier definition from Ki Hajar Dewantara (quoted in Pidarta 2000) points out that education is to guide every natural ability in children so that they as human and the member of the society could gain the highest level of survival and welfare.

Pidarta (2000: 42) considered Law no.2/1989 as the most comprehensive law regarding education in Indonesia. In the law (article 1 verse 2), national education was said to be rooted in 'Indonesian culture'. In reality, as a newly independent nation, there was not yet a really modern 'indigenous' education system intact.

The first school established by an 'indigenous' Indonesian can be dated to 1922 when Ki Hajar Dewantara[180] founded the Taman Siswa (Student's Garden) in

[180] Dewantara was Minister of education in the first Republican cabinet, and another leader of Taman Siswa succeeded him in the next cabinet (Hing 1978:42, quoted Gjelstad). The role of Education Ministers in formulating the education ideology of the school is enormous. As explained in the previous chapter, the School could be seen as a national miniature of Indonesia. As such, the Education Minister also has a decisive role to play just like the President of Indonesia who could be seen as the sole representation of the 'state', at least up to Soeharto administration. As a result, as ICW (2004) noted, education policy was never consistent. A change in the Education Minister would soon be followed by a change in Education Policy (in terms of curriculum). To cite an example, when Dr Fuad Hasan was a minister, the theme of the curriculum was Active Student Learning Metod (*cara belajar siswa aktif* -

Yogyakarta[181]. The distinct characteristic of this school was it prepared students with an aspiration to be free (freedom), and this was different from other schools mostly founded by the Dutch which had the ultimate goal of preparing the students to become a part of the government administration. Even then, the Taman Siswa ideology was still influenced by the European and western culture, as McVey (1967: 133) noted:

> The Taman Siswa's founder made use particularly of the ideas of Montessori and Frdbel in Europe and the Dalton school system in the United States, with their stress on self-expression, the adjustment of teaching to the terms of the child's world, and the techniques of indirect guidance and control. Rabindranath Tagore s criticisms of western education and his Santiniketan School were also much admired by Ki Hadjar and his associates, though, like other leaders of the Indonesian national movement, they never rejected western ways to the extent Tagore and Gandhi did.

There is another type of indigenous or community-based school known as the Islamic school, popularly known as 'madrassa'. Madrassa has a long history in Indonesia. Different with its counterparts in the Middle East, madrassa in Indonesia were more targeted at the primary or secondary level of education, while in the middle-east they are more targeted at the advanced levels (Shaleh 2004: 12).[182] The most established Islamic schools today are founded by Muhammadiyah dasting to 1912 and Nahdhatul Ulama dating to 1926 (Shaleh 2004: 19-20).

CBSA). However, when Dr Wardiman Djojonegoro was a minister, CBSA was soon replaced by "link and match" theme (ICW 2004). For a simple description of the 'link and match' system refer to Daulay (2004: 206-208).

[181] Other similar indigenous school was established by Mohamad Syafei, called the Indonesisch Nederlandse School in West Sumatra (Pidarta, 2000: 123).

[182] As early as 1596, the Dutch colonial rule under Cornelis de Houtman had found several community-based schools in Hinduism and Islam (Shaleh 2004: 14).

The establishment of a 'national' school in Indonesia, despite the existing colonialism of the Dutch, probably existed as early as 1908, as Dewantara (1967: 156) notes:

> … schools had been founded by Indonesians themselves long before the introduction of the term national education. Various educational institutions came into being due to the initiative of the oldest national association, Budi Utomo, which since 1908 has been most distinguished in its service to the general intellectual interests of the people. (Its efforts have included the foundation of schools and hostels by the Darmo Woro Scholarship Fund and the discussion of educational affairs at its annual congresses.*)*

The Budi Utomo organization was established by Dr Wahidin, a Javanese medical doctor, and has the following characteristics (Pidarta 2000: 131):

1. The basis of the organization is Culture.
2. The goal is to advance the Indonesian nation in every aspect of life, including culture.
3. The leader is coming from the 'common' Indonesian people who are not considered as scholars.

The 'Taman Siswa' ideology formulated in 1922 consists of the following (Pidarta 2000: 125):

1. Individual freedom for individuals to manage themselves, without disrupting the concern of the general public at large.
2. Freedom in thinking, aspirations, and willingness to do something.
3. Indigenous culture acts as the basis of life, instead of intellectual ground.

4. Social purpose; where education should be provided to all people indiscriminately.
5. Live independently, try to be self-sufficient, and not to expect conditional aid.
6. Live a simple life, such that Indonesians can be self-sufficient financially.
7. To serve the needs of the children.

From the above set of ideology, we could say that the ideology for education before independence was based on freedom, indigenous culture, and egalitarianism. This was not much different with the education ideology after independence, except that there was added emphasis on business or working purpose and additional emphasis on religious purpose.

Looking at the education objectives after independence, one cannot escape the feeling of vagueness of the 'motherhood' statement in the GBHN (*Garis-garis Besar Haluan Negara* - Broad Outlines of State Policy) concerning education goals. This is especially so when looking at the reality of the heavy state-intervention in education policies. As Sindhunata (2000: 12) notes:

> In many countries, as well as in Indonesia, schools are institutions built by the state, serving the state's purpose. Private schools are established also to support the goal (of the state).

During the implementation of Law no.2/1989, the process was seen as centralistic, undemocratic and to be overly controlled by political authority (Mastuhu 2003).

The vagueness of education-sector goals could be due to the fact that GOI under Soeharto put economic growth as its major goal for long-term development plan. As a result, there was this emphasis on how education should also contribute to the business sector and the economy through a popular concept of 'link and match' established in the education policies. 'Link' means here that education has a functional relationship with the market needs; and 'match' means here that school graduates should meet the requirement of the employers, in terms of quality and quantity[183] (Pidarta 2000: 135).

Nevertheless, we could grasp one of the central themes of education; to build an 'Indonesian Man'. This emphasis could be seen from the particularly strong emphasis on 'culture' and 'indigenous' as the main components of education ideology. The Ministry for handling education and school matters in Indonesia was the Ministry of Education and Culture (MOEC), and not until the Wahid administration (1998-2000) that the MOEC was changed to the Ministry of National Education. This shows how 'culture' was seen as inseparable from 'education'.

Again, as a newly born nation with diverse regional cultures, Indonesia obviously was in need of a definition what was meant to be 'Indonesian'. The nation-building goals obviously would be implanted by the state in the education system remembering the fact of the authoritarian type of Soekarno and Soehartos' administration. The requirement and the wide usage of Indonesian language as the medium of instruction had somewhat showed some success in the nation-building process. What is unclear was how the education system would prepare the students to face the future, concomitant with the fast changing environment in terms of culture and

[183] The "link and match" system was formally introduced after 1993 by Dr Wardiman Djojonegoro when he was the Minister of Education.

economic growth. To quote Gjelstad (2003) "…challenges that the newly independent Indonesian nation faced regarding the task of building up an appropriate system for educating the future generations of Indonesians."

Rosyada (2004: 226-227) describes the education system in Indonesia as having three waves. The first wave was where education (or schooling) was embedded in religious institutions like the mosques and pesantren surrounding the communities (before indepence period). The second wave (occurred during Soekarno and Soehartos' administration) was where the education sector was heavily regulated and centralized by the central government, in terms of planning, financing, curriculum, and human resource development (teachers or other educational staff). In the second wave, national education was directed towards more secular and nationalistic goals, despite the acknowledgement and inclusion of religious objectives in the law and curriculum. The third wave took place after the advent of regional autonomy (after Soeharto) and put more emphasis to the local conditions and needs, supposedly bringing the community back as the main decision makers for educational purposes.

7.1.1 The Indonesian Man

Based on the Indonesian constitution the main task of schooling is to create a 'new Indonesian Man' (Shiraishi 1997 quoted in Gjelstad 2003). With Indonesian independence, there was a concomitant need to define what was meant to be an 'Indonesian', especially in nationalistic terms. As McVey (1967:138) quoted in Gjelstad (2003) notes that "the national revolution itself required a mobilization of the masses, the village replaced the court as the main cultural centre". As Indonesia was

and is predominantly rural, the village obviously has a central role to play in Indonesian development.

However, despite the acknowledgement that the village has a central role to play in nation building, there was also a view that the village acted as one of the obstacles to nation-building and development. As McVey (1967:138) quoted in Gjelstad (2003) noted:

> On the one hand, nationalist sentiment viewed the village as the reservoir of Indonesian culture; on the other hand, the transformation of the villager was seen as a major goal of modern nationhood. The common man was still ignorant (masih bodoh); he must be made literate and educated in his duties as a citizen.

As such it is important to assess the 'traditional' or 'indigenous' versions of Indonesian Man, and then compared it to the 'modern' Indonesian Man aspired by the development process. Swasono (2004: 48) argues that to reveal the identity of Indonesian Man, one needs to look at the mindset, aspirations, and behavioral aspects. The three aspects construct the national culture that would later on construct the characteristics of the Indonesian Man.

7.1.2 'Traditional' Indonesian Man

To know the characteristics or mentality (cultural value/nilai budaya) of 'traditional' or 'native' or 'indigenous' Indonesian Man, the work of Koentjaraningrat (1974)[184] is still highly relevant. Koentjaraningrat (1974) divided the mentality of Indonesian Man before independence into two categories: the 'farmers' (*petani*) mentality mostly exists in rural areas, and the 'employee' (*pegawai* or *priyayi*) mentality mostly exists in urban areas.

The farmer's mentality, according to Koentjaraningrat is:

1. In relation with the meaning of life (*hakekat hidup*): a person works hard so that he would be able to eat (*manusia itu bekerja keras untuk dapat makan*).
2. In relation with time horizon (*persepsi waktu*): most of the important decisions and life orientation of a farmer is determined by the current situation and condition (*keadaan masa kini*).
3. In relation with 'nature' (*alam*): a person must be in harmony with nature (neither to 'conquer' or being 'dependent' on nature).
4. In relation with others in the community: the concept of equality or equal distribution (*sama-rata-sama-rasa*). An Indonesian Man must keep a low profile and not to be seen as 'superior' compared with others.

The employee's mentality, according to Koentjaraningrat is:

1. In relation with the meaning of life (*hakekat hidup*): life is to pursue happiness reflected in status, power, physical prosperity (for example to own big and luxurious houses). According to Koentjaraningrat it is not 'achievement oriented'.
2. In relation with time-horizon (*persepsi waktu*): most of the important decisions and life-orientation of an employee is determined by the past, with lots of sentimental values attached to '*pusaka*', mythology, 'silsilah', and with the work of past scholars.

[184] His work has been reprinted 21 times, with the latest edition on 2004.

3. In relation with 'nature' (*alam*): an employee has some tendency towards mystical phenomenon that is not rational, and tends to put too much emphasis on 'fate' (*nasib*).
4. In relation with others in the community: an employee puts too much emphasis on superiority and seniority, adhering to patron-client and vertical relationships, causing lack of initiative and always waiting for directions from the boss (*menunggu-restu-dari-atas*).[185]

Another type of mentality probably existed in the traditional Indonesian society. Besides the agrarian society -that probably had its historical track from the Mataram kingdom in Java (Dinsi 2004: 8)- another type of a more maritime and trade-based society probably also existed, like the ancient Kingdom of (*Kasultanan*) Aceh in Sumatra island. However, due to the invasion of the Portuguese and later on the Dutch, who applied the monopoly system and cut-off the native access to international trade, this trading spirit -could be regarded as an 'entrepreneurship' mentality- was severely dampened. Later on, the Dutch only allowed limited trading opportunities for the Chinese, which was a minority in the Indonesian archipelago.

Koentjaraningrat (1974: 39) actually feels that some of traditional cultures and mentality were, in a way, not fit for the spirit of development. The reason was that the traditional values were not 'achievement oriented', not 'future-oriented', giving too much emphasis on 'fate', and too 'vertical-oriented'.[186]

[185] This mentality was reinforced during Soeharto's administration; especially acknowledged by Mr Harmoko, the Information Minister from 1983-1997. The local acronym for such behavior is ABS (Asal Bapak Senang), could be translated as 'as long as the Master pleased'..
[186] Alghatam (2005: 4) in analyzing the Arab culture wrote that "There is no doubt that traditional culture

As for the mentality of Indonesian Man after independence, Koentjaraningrat lists the following weak characteristics[187]:

1. Mentality to disregard quality;
2. Mentality to look for short-cut or 'instant' result without or less effort (*menerabas*);
3. Mentality of lack of confidence;
4. Mentality to ignore tight responsibility.

This mentality was the result of the 'decolonization process', a stage whereby in a transitional period after independence, the old and feudal norms were seen as obsolete but on the other hand the 'new' or 'modern' or 'nationalistic' norms were yet to be built and agreed upon (Koentjaraningrat 1974:44).

This traditional mind-set and or ideology had probably hindered the economic development process that was occurring in Indonesia. As Sulaeman (2005: 2) notes:

> Economic development plan for the country had been creating issues at the beginning after there were presumptions that 'Indonesian culture' was unfit in supporting economic development program (Boeke 1953; Koentjaraningrat 1969). Cultural unfit presumptions were imposed based on common comparison between Indonesian origins and Chinese, whom had played economic role successfully in the country.

As the post-independence era could be considered as the transition process, the state, or more generally the elite, holds a massive and decisive role as the agent of change; especially remembering the vertical characteristics (or patron-client relationship) of traditional Indonesian society.

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has played a negative role in the progress of society, and led to a situation of backwardness…".
[187]For the description and explanation of each mentality, refer to Koentjaraningrat (1974: 43-55).

7.1.3 'Modern' Indonesian Man

Though Koentjaraningrat did not state explicitly the characteristics of a 'modern[188]' Indonesian Man, he stated the necessary development mentality needed for Indonesians in order to develop further so as to become more 'prosperous' economically (Koentjaraningrat 1974: 33). In conclusion, Koentjaraningrat (1974: 36) states:

> A nation that aspire to intensify its effort for development must make an effort such that more of its citizens attach higher value for future orientation, so that man would become more thrifty to calculate his ideal life in the future; to attach higher value for explorative drive in order to increase its innovative capacity; to attach higher value towards creativity; and finally to attach higher value for an independent self-effort mentality, self confidence, pure discipline, and have the courage for self-responsibility.

In addition, Suryadi and Budimansyah (2004) list the characteristics of a (ideal) Modern Indonesian Society in the following:

1. Faithful to God: civil society is expected not to be a mere secular and materialist society but one that is more religiously ethical; one that puts more emphasis on goodness of mankind as a creation of God;
2. Democracy: the self-realization to participate in every aspect of life towards the implementation of governance and development that reside in the hands of the people;
3. Self-effort: the readiness of society in facing future challanges, global competition, increasing value-added, and to transform into a modern society;

[188] Kartono (1997: 16) stated that a traditional man wanted continuity and stable condition in the society, and reluctant to changes. In contrast, a modern man would anticipate changes, development,

4. Superiority: human mentality in society that values his/her own work highly, and has the drive to produce something because of the satisfaction derived from the success of creating his/her own work.
5. Professional: a society with the drive to explore nature, to make a person a master of his/her own fate, and not to be controlled by fate.
6. Rule of Law: Laws and regulations agreed upon would control the life of society and not through power or force.

More formally, the 'ideal' Indonesian Man is described in the National Education Goal in Law no.20/2003 with the eight important aspects of national education being (Daulay 2004: 198): 1. faithful to god; 2. noble personality; 3. healthy; 4. knowledgeable; 5. skillful; 6. creative; 7. self-reliant; 8. being a democratic and responsible citizen.

It is clear from the above description that religious and state-building concern have been vital to the ideology of the 'ideal' and thus 'modern' Indonesian Man aspired by the state, and probably to some extent by the community as well. It seems that the national education system, more specifically its curriculum, has devoted sufficient attention towards the making of this 'modern' Indonesian Man, as the state requires three types of lessons to be taught at every level of education (Daulay 2004: 37): they are Pancasila Education, Religious Education, and Civic Education (Law No 2/1989, article 39, verse 2).

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improvement and increment. A modern man has a mobile and flexible personality that easy to adapt to any changes and new phenomenon.

Unfortunately, the materials and content of Pancasila Education and Civic Education were highly controlled by the state (especially at the time of Soeharto's administration) and only acted as an indoctrination tool for the state to maintain its power.

Ideally Civic Education should teach values that encourage the critical behavior of students to demand their rights as well as to know their obligations. However, in Indonesia, it only emphasises the obligation of citizens to the state, thereby creating an obliging, fearful, uncritical person – a person without personality (Darmaningtyas 2004:11). Pancasila Education also acted as a mere justification and one-sided interpretation by the state regarding the use of Pancasila as the nation's ideology.

One could argue that the learning process that moulds the culture of 'Indonesian Man' does not happen only in school, so education vis-à-vis formal schooling might not be the sole agent of change. While it is true that learning is a long-life and continuous process, it must be admitted that the society or the community have less potential to act as the agent of change or development, remembering the 'traditional' characteristics or mentality of 'Indonesian Man'. As such, education through schooling could be said to be in a more advantageous position to act as the agent of change towards achieving a modern society.

Modernization school-of-thought believed that the school, besides teaching knowledge and skills, also has an effective role to play to build modern values needed as a pre-condition for every nation aspiring to enter the industrialization era (Wirutomo 2004: 253). According to this school of thought, the backwardness of a nation did not occur because of structural problems, but more related to cultural deficiency or the lack

of modern values required for a society to develop and to enter the industrialization era. These modern values are entrepreneurship, courage to take risks, creativity, achievement motivation, and other attitudes (Inkeles 1969 and Holsinger 1973 cited in Wirutomo 2004).

A couple of the main problems of Indonesian education quality was stated by Suryadi and Budimansyah (2004: 15):

1. The learning process puts too much orientation towards the theoretical and the mastering of facts such that the ability of learning and logical deductions of the students remains under-developed.
2. The school curriculum is too tightly structured and fully loaded, and this has made the learning process in the schools to become sterile to the conditions and changes occurring in the society at large. As a result, the education process becomes a mere routine, unattractive and does not ignite the students' creativity to learn.

Others like Buchori (2004: 308) assess the current quality of learning for Indonesian nation to be low. It is because in the education curriculum there is no agenda for increasing the ability of learning. This is because the overly ambitious national curriculum resulted in a generation with a limited ability of learning (Buchori 2004: 309).

Other quantitative evidence about the education quality in Indonesia is also not encouraging. Supriyoko (2004: 424) noted that the average national score for National Final Study Evaluation (EBTANAS) for Junior High School (SMP) and Junior High

School (SMA) for mathematics has never reached the score of 6 out of 10! Other evidence from South Sulawesi by Supriyoko (1993) cited in Supriyoko (2004) shows that many Primary School graduates are still having some problems in literacy.

However, the modernization school of thought views the effect of schooling (towards building a modern attitude and culture) is not done mainly through learning materials and curriculum[189] but mainly through the process of interaction occurring in schools (especially in the classroom) (Wirutomo 2004: 253). This can occur in the reward and punishment system in the classroom or using teachers as role models.

Yet, unfortunately for Indonesia, for the two examples cited above, the Indonesian school culture is still not very promising. For example, for using teachers as role models, with the current teachers' poor salary and unexciting career path combined with the current materialism culture, it would be hard to imagine that any student, except those with a very idealistic aspiration, would use their teacher as a role model.

It is not easy to define the 'current' nature of 'Indonesian Man'. Firstly, because, most obviously, the transition process towards a modern 'Indonesian Man' is probably still underway – without a likelihood that it would ever finish. Secondly, after the crisis erupted in 1997, many writings seem to focus only on the negative sides of Indonesian culture. But maybe we should not define it at all, because in doing so we would be creating a closed definition of culture which is probably 'ethically' incorrect.[190]

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[189] Nevertheless, Buchori (2004: 303) aspire that curriculum could act as a 'blue-print' of an Indonesian Man figure expected to grow within the students after undergoing all learning, teaching, and training stated in the curriculum.

[190] Djiwandono (2004: 39) for example, opposed the method of Citizenship Education curriculum during Soeharto era. During that time, Pancasila was described and elaborated further into 'hundreds grains of Pancasila', which explain in details what was meant specifically by the ffive principles. He/she considered that has created Pancasila as a closed ideology and has made the state to monopolize the

Instead of doing that, let us examine what some of the scholars have to say regarding Indonesian society currently. Sudarminta (2004: 106) describes three social symptoms the current Indonesian society is facing: the massive corruption, collusion, and nepotism (KKN-Korupsi, Kolusi, Nepotisme) practices happening in the government bureaucracy at all levels and in every aspect of society; the weak social responsibility of the nation leaders as well as public officials in general; the lessening levels of humanity in many Indonesians.

Other scholarss, like Herry-Priyono (2004) highlights the emergence of materialism in modern Indonesia. As the private sector experienced a booming in the 1980s fueled by the globalization of trade, a new middle class emerged. This new middle class uses capital as their symbol of status. The definition of success in this new modern landscape of Indonesia is the amount of capital accumulated. Quoting Ruth McVey, Herry-Priyono (2004: 171) writes:

> More often nowadays, the children of state officials no longer seek a career in the government bureaucracy. There has been a major shift in ideology between the elites, from 'status' seekers towards 'money' hunting and material consumption….we find a situation whereby children of state officials choose to get an MBA instead of entering the military or government institute. No one of Soeharto's children followed the military career path as their father's did. The problem with them, as with the new powerful elite generation that is now business oriented, is to what extent do they become a real entrepreneur, and not just playboys playing around with their family's fortune.

This new middle class has its own specific characteristics that are different from the other types of middle class in Indonesia as shown in Table 7-1.

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interpretation of Pancasila.

Table 7-1 The New Middle Class Characteristics in Indonesia, 1996

Characteristics	New Middle Class (MC)	Old MC	Marginal MC	Labor Class
University Education	69.1	20.8	17.0	1.9
Family Income	51.9	26.7	17.4	1.0
PC Ownership	46.2	21.5	13.7	0.0
Credit card ownership	39.7	19.1	10.1	0.0

Source: Kompas daily R&D (1996), in Herry-Priyono (2004).

One important work regarding 'Indonesian Man' is done by Mochtar Lubis (a prominent Indonesian Journalist who won the 1958 Ramon Magsaysay Award for Journalism, Literature and Creative Communication Arts) in 1977 with his speech titled 'Manusia Indonesia: Sebuah Pertanggungjawaban' ('Indonesian Man: An Acknowledgement'). In his work, Lubis (1990) described many characteristics of 'Indonesian Man'. He boils down the characteristics of 'Indonesian Man' to:

1. Hypocricy. 'Indonesian Man' tends to act or talk differently from his/her original intentions. This resulted from the long history of the feudal system existed in the Indonesian society. One of the implication of this characteristic is that 'Indonesian Man' would do what his/her supervisor expected him to do/say, mostly known as the 'ABS' (Asal Bapak Senang – As Long as The Master Pleased) attitude.
2. Reluctance to take responsibility. 'Indonesian Man' tends to avoid or shift responsibility of his/her own action, decision, behavior and thinking (tends to look for scapegoat). When something is wrong, someone else is to blame; while when something goes well, only the elites will strive to get the recognition.

3. Feudal spirit. Hierarchy and sense of orderliness are embedded in Indonesian society. Everybody is expected to know his/her place in society. Society is constructed vertically, not horizontally. Each person belongs to a different stratum of the society and should act accordingly. This establishes a firm patron-client relationship in the Indonesian society.
4. High mystical beliefs. Many 'Indonesian Man' have a deep mystical beliefs. They believe in 'higher powers' above themselves such that fate and 'good luck' matters above all. One consequences of this dominant mystical belief is the wide usage of 'mantra' ('spells'). Modernization is viewed as yet another mystical ideology, something that has to be achieved at all costs. Modernization at the same time is also being regarded as a 'mantra', as if modernization could be achieved instantly simply by just saying it.
5. Artistic. 'Indonesian Man' is known to have high artistic values and gives high appreciation for the arts. This can be seen from various artifacts across the archipelago in the form of wooden artifacts, metal artifacts and other temples and buildings. As such, an 'Indonesian Man' has high intuition and instinct capacity.
6. Weak character. 'Indonesian Man' has a weak character and often does not stand up to support its own opinions or arguments. Lubis (1990: 39) cites the example that most economists during Soekarno's administration said nothing when Soekarno declared that high inflation was good as long as it served the goal of 'Indonesian revolution'.

It is clear the economic growth process has brought and required a (physical) structural change as well as the mentally (cultural and ideology) cultural change as well. Castles (2000), for example, regarded the "Rostow's five stages of growth culminating in economic 'take-off', were based on an ethic of hard work and saving, combined with laissez-faire economics and free markets".

Changing an ideology, however, would possibly take a very long process, and even then, it may not result in a clear-cut 'model' of culture. Instead it would most probably create a hybrid model of ideology and culture. As King (2005: 8) notes, the "convergence around some set of post-modern values is unlikely, as 'history matters' and traditional values will continue to influence cultures as they modernize".

7.2 Capitalistic Nature in Economic Policy Making

The major critique when one studies the economic policy making in the Southeast Asian countries is that the policy makers tend to be western-biased in their framework of thinking. Indeed, contemporary economic thinking is mostly based on the mainstream of economics which is deeply rooted in the capitalistic ways of thinking. This can be mainly attributed to the work of Adam Smith, when in 1776 he published "An Inquiry into the Nature and Causes of the Wealth of Nations" -- the book that defined modern capitalism[191]. The so-called neoclassical economics doctrine has dominated many of the international organizations such as the IMF and the World Bank, and also many of the policy elites and technocrats in developing countries. Indonesia is not an exception. One of the reasons is that most of the scholars turn to

[191] Bronowski (1960), Chapter 19.

policy makers either in the World Bank and IMF. The Governments of the Third World are being educated as 'neoclassical economists' and tend to ignore other schools of thoughts. As Foldvary (1998) argues:

> The problem is even worse in graduate schools, where economists are trained. The students become indoctrinated into one or other school of economics. Unfortunately, economics is not a unified body of knowledge, but divided into schools of thought that are often radically different. The predominant neo-classical school is subdivided into subschools of macroeconomics, which studies the economy as a whole. We have demand-side New Keynesians, supply- side New Classicals, along with Monetarists and others. Graduate students get attached to some subschool, and then think that this is correct economics. Few are interested in challenges to their doctrine, since they first need to get their Ph.D degree, and then they must please the faculty they join in order to get tenure. By the time they get tenure, they have been working with neoclassical doctrine so long that they believe it is the only way to go.

In order to become independent from from the western-biased approach and to gain a deeper and more critical understanding about the formulation of government policy in Indonesia, this chapter attempts to explicitly discuss the origin of ideas in policy-making through some sort of biographical approach of the policy makers, otherwise known as an actor-oriented analysis of development policy[192]. Why some policies are favorable when compared with others, and understanding the process of decision-making could give broader insight for policy analysis purpose. This is particularly relevant for Indonesia, where the state and policy elites play a central and dominant role in economic development as well as in politics.

[192] A new framework of analysis for policy making that was recently developed being known as a 'memetic framework' is actually similar with the method being used here. The memetic framework consists of a view where descriptions of actions and people endorsing them, compete to get these action proposals into policy plans. This framework enables the inclusion of rational, non-rational and other selection forces, having their effects when choices are made. Because it also deals with the historical legacy of the ideas used to formulate a policy, it expands on the concept of 'bounded rationality', limiting the role of rationality or reasoning in making choices even further (Speel, H-C., 1997).

7.2.1 Economic Policy Making Ideology in Indonesia

As a relatively young country that gained independence in 1945, the national government was faced by a high poverty level that was being felt mostly by indigenous people of Indonesia. Swasono (1997) has described the 'indigenous population of Indonesia' as "…the warganegara pribumi (native Indonesians), consisting of various ethnic groups spread all over the country. Each considers a place in Indonesia as its land of origin, where it maintains ancestors' graves and major cultural heritage". In its preamble of the 1945 constitution, the goals of the Indonesian Nation are stated as:

> …to form a government of the state of Indonesia which shall protect all the people of Indonesia and their entire native land, and in order to improve the public welfare, to advance the intellectual life of the people and to contribute to the establishment of a world order…[193]

So the goal of 'public welfare' has been embedded in the nation's ideology and the government should pursue this goal accordingly. The goal of public welfare is stated more specifically in Article 33 (under Chapter XIV: Social Welfare) items 2 and 3 that:

> 2. Sectors of production which are important for the country and affect the life of the people shall be controlled by the state.
> 3. The land, the waters and the natural riches contained therein shall be controlled by the State and exploited to the greatest benefit of the people.

In addition, Article 34 states that the poor and destitute children shall be cared for by the State. Article 33 clearly mentions that any sectors of production that are important for the country and affecting the lives of the general public should be

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[193]Department of Asian Studies, University of Texas, http://inic.utexas.edu/asnic/countries/indonesia/ConstIndonesia.html

controlled by the state and to be exploited for the greatest benefit of the people. This is actually the legal foundation for establishing PERTAMINA[194], the Indonesian State oil company that manages the natonal oil resources. With vast oil resources and supported by an increase in oil prices, PERTAMINA provided Soeharto with a vast amount of capital that could have been efficiently invested to further accelerate economic growth (Sangkoyo 2003).

The basic ideology of the Indonesian economy is supposedly a 'family system' as mentioned in the 1945 constitution[195] in Article 33 item 1:

> The economy shall be organized as a common endeavor based upon the principles of the family system[196].

The capitalist development path that is being taken by Indonesia is actually not even mentioned in the Indonesian constitution. On the contrary, the 1945 constitution actually opposes the notion of capitalism (by proposing a system called "Economic Democracy"), Swasono (1995) states "The welfare of the society should be emphasized and not individual welfare". As such the economy should be built as a joint-effort based on 'azas kekeluargaan'(family system). The structure of company that suitable that is suitable then is cooperative (koperasi)." (Swasono 1995: 84).

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[194] Pertamina was established in 1968 as a merger of Permina and two other firms. Its director, General Ibnu Sutowo, a hardy survivor of the transition from Guided Democracy to New Order who had been director of Permina, embarked on an ambitious investment program that included purchase of oil tankers and construction of P.T. Krakatau, a steel complex. In the mid-1970s, however, it was discovered that he had brought the firm to the brink of bankruptcy and accrued a debt totaling US$10 billion. In 1976 he was forced to resign, but his activities had severely damaged the credibility of Indonesian economic policy in the eyes of foreign creditors. (The Library of Congress, Country Studies Data as of November 1992) <http://www.indonesiaphoto.com/article237.html>

[195] The 1945 Constitution was a product of nationalists who had fought hard for independence from the Dutch colonization. This historical background made it the symbol of independence of the Indonesian nation (Kawamura 2003).

[196] After rejecting individualism and liberal democracy as a basis of Western democratic regime, founding fathers adopted family principle (kekeluargaan) as a philosophical base for constructing original political institutions in Indonesia.

The economic policy-makers during the early independence period actually disliked capitalism as it was often associated with colonialism. They were more attracted to the idea of socialism though this is not to be equated with the Marxism or Leninism. Socialism is more related to 'kerakyatan', or to be associeated with 'Indonesianization' or 'indigenism'. The only difference was whether this should be achieved by state nationalization or by promoting an Indonesian business class[197] (Mackie 1971: 44 quoted in Thee 2003: 9).

During Soekarno's administration, socialist ideas seemed to be projected by the only economic programme ever constructed in 1963, the Dekon (an acronym for 'Deklarasi Ekonomi' or 'Economic Declaration') which focused on deconcentration (Thee 2003: 19).

7.2.2 Who are the Actors?

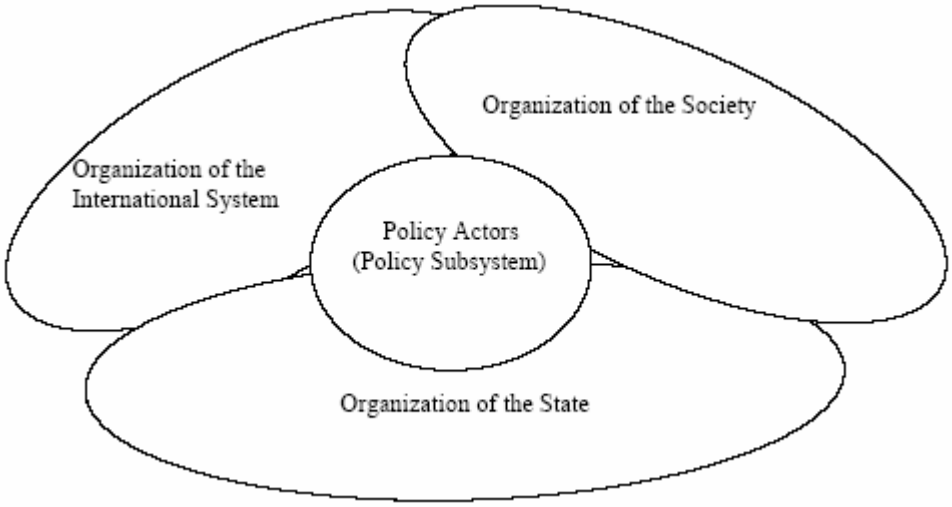
Policies are not made in a vacuum. Instead they are made in some sort of policy subsystems consisting of actors dealing with public problems. How a policy is actually decided on and implemented is a complicated process involving many actors, in which some have more roles to play while others are only marginally involved. The relationships between these actors in the policy-making arena largely depend on their institutional affiliations and settings, and their interests and efforts. This policy arena, or sometimes referred to as 'policy subsystems', are forums where actors discuss policy issues, persuade and bargain in pursuit of their interests. During the course of their

[197] The first major programme to develop a strong indigenous Indonesian business class was the Benteng (Fortress) programme launched in April 1950 (Thee 2003: 12). This programme success rate was, however, controversial. Sjafruddin Prawiranegara, the Minister of Finance in 1949, disagreed with Soemitro's Benteng Programme, arguing that the Indonesian society must first be educated in management and technology first (business skills) before rushing into forced industrialisation, otherwise

interactions with the other actors, they often give up or modify their objectives in return for concessions from other members of the subsystem (Angelov 2002).

Howlett proposes a policy process as shown in Figure 7-2, which is complicated and non-linear in nature. Many actors and various issues are involved in the policy-making process. Sutton (1999) provides a more detailed description of the policy process in Figure 7-3.

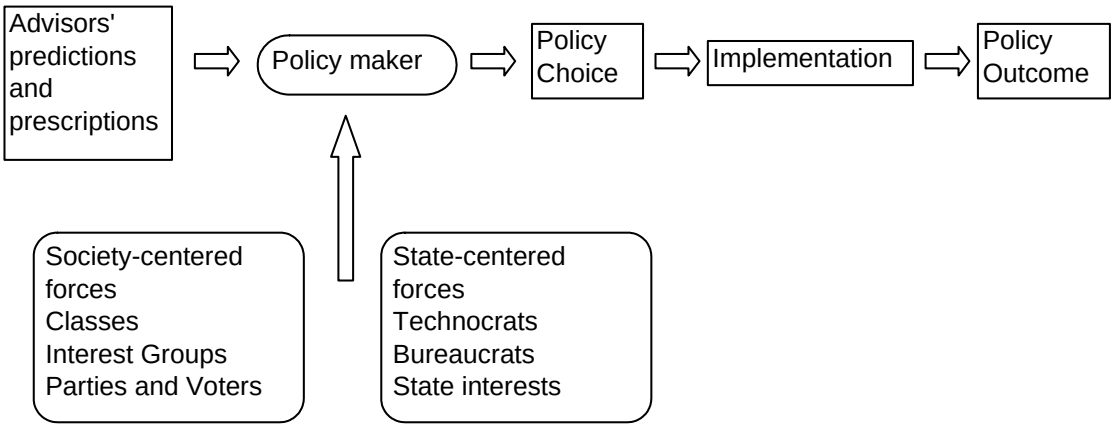
Figure 7-2: Actors and Institutions in the Policy Making Process



Source: Howlett, M. (1995).

without proper education the programme would only create Ali Babas (nick name for indigenous rent-seekers who sub-contract their license to Chinese businessmen for fast profits) (Thee 2003: 82).

Figure 7-3: Interests in the Policy Formation Process



Source: Sutton (1999) from Keeley (1997) adapted from Meier (1991).

In the Indonesian context, we can spell out the three most important policy actors that have a large influence over how policies are shaped. Firstly of course, is the President. The Presidential system in Indonesia has provided the President with large political resources[198] that determine the final outcome of the policy process. The executive branch in Indonesia, especially the president, monopolizes power, leading to arbitrary conduct of politics (Kawamura 2003). The second is the policy elites. By policy elites we refer to the ministers and technocrats that are involved in designing the policy structures and alternatives. The third actor is the general public at large. It would be difficult to capture and to determine the cohesive position of the general public, so we would use the working-class and middle-class to represent the general public.

Actually there are two other main actors that have significant roles to play in the policy process. One is the international actors, such as the World Bank, IMF, etc. The other one is the Business Interest Group, either the indigenous business group (usually

[198] President, as the head of the state, holds the executive power and organizes the government (Article 4).

represented by The Indonesian Chambers of Commerce-KADIN[199]) or the Chinese faction (including mostly the wealthy magnates like Liem Sioe Liong). But the interests of these groups have been embedded in the domestic policy actors indirectly and not directly, either represented by the technocrats or by the bureaucrats.

7.2.3 The Middle Class and the Working Class: Where Have All the Socialists Gone?

Despite his notorious leadership style, Soeharto indeed has left something positive as legacy, which is the increasing number of middle class. Heinz W. Arndt (2000) states that:

> The legacy is the rise of a solid educated Indonesian middle class. For almost 30 years, the real national product increased by an average 6% a year, real incomes tripled in a generation. Admittedly, many members of the new middle class were urban Chinese, but economic growth also lifted most farmers out of traditional mass poverty. Their rise in living standards lifted their demand for manufactures and services.

Arndt also argues that the economic and welfare growth that was achieved during the Soeharto era would not have happened if Indonesia pursued a socialist pattern of development under Soekarno.

Davis (2004: 1-2) defines the middle class[200] to comprise of "three basic occupational categories: salaried employees in commerce, services, industry, and the professions, as well as those employed by the state; self-employed artisans, craftsmen

[199] Shin (1991) noted that "The Indonesian Chamber of Commerce and Industry (KADIN) demonstrated the most obvious interest in accepting the enhanced role of the private sector in business affairs. In the early 1980s, the state, in a symbolic gesture, designated KADIN as the only legitimate social institution to provide assistance to small and medium (mostly pribumi-owned) companies. After that, KADIN, which was originally organized to protect pribumi business interests, collected funds primarily from Chinese entrepreneurs and distributed them through its regional offices".

[200] It must be remembered, however, that it is difficult to define middle class in a clear cut manner. As Anthony Giddens [quoted in Davis (2004: 363)] said, "one of the most interesting attributes of middle-classness is the absence of class identity or consciousness". Others like Senauer and Goetz (2003: 1) stated that "A middle class lifestyle is typically associated with the widespread ownership of major

and other rural and urban-based producers, who in developing countries are often called petty commodity producers (or yeomen farmers in the rural sector); and owners and operators of small enterprises, including family firms, in service, industry and agriculture". Davis' (2004) understanding of middle class is to differentiate it with the major capitalists and wage laborers.

While Hattori, Funatsu and Torii (2003) define the different classes scheme described in table 7-2.

Table 7-2 Class Scheme and Categories

The Original Scheme as Proposed by Goldthorpe		Revised Asian Class Scheme by the Academia Sinica	
I	Higher-grade professionals, administrators, and officials	I II	Capitalist New middle class
II	Lower-grade professionals, administrators, and officials		
IIIa IIIb	Routine nonmanual employees Personal service workers	IIIa+b	Marginal middle class
IVa IVb	Small proprietors, artisans, etc., with employees Small proprietors, artisans, etc., without employees	IVa+b	Old middle class
IVc VIIb	Farmers and small holders, etc. Agricultural workers	IVc+VIIb	Farmers/agricultural workers
V	Lower-grade technicians and supervisors of manual workers	V+VI+VIIa	Working class
VI	Skilled manual workers		
VIIa	Semiskilled and unskilled manual workers		

Sources: Erikson and Goldthorpe (1992, pp. 38–39) and Hsiao (1999, pp. 6–9) in Hattori, Funatsu and Torii (2003).

Based on the above definitions of the middle class we can see that it arises when the income and skills of the traditional working class improve. As the economy grows, we can expect that the middle class would also grow simultaneously.

household durable goods, such as refrigerators, telephones and automobiles".

As Davis (2004) argues, while the middle class has usually been seen as the bounty or product of economic growth and modernization, this group would in turn shape industrial and economic development; "the particular ways in which middle class shaped themselves – and the ways historical conditions shaped them – influence development trajectories in multiple ways" (p.1). While Shiraishi (2004) argues that middle classes are "a product of developmental states and their politics of economic growth" (p.1).

The end of Soekarno's administration has caused the socialist movement that supposedly represents some of the major interests of workers to vanish. Despite its big share of votes in the 1955 election[201], the Indonesian Communist Party (PKI) seems to have been wiped out, probably due to the blood-bath which happened after the 30 September 1965 incident that had cost many supporters and sympathizers of the PKI to vanish, and their children, grandchildren and other relatives to be denied entry into politics during Soeharto's 32-year administration.[202]

The working class, as one of the main ingredients of development, (both in the capitalist or Marxist development model) and the middle-class, have been under-represented in the Soeharto era. In 1974 the New Order administration formulated its Industrial Relations policy as the Pancasila Industrial Relations (Hubungan Industrial Pancasila, HIP). The policy was outlined in the Minister of Manpower Decision No.

[201] Of the 37,785,299 votes cast in the 1955 general election, six parties received more than one million votes each: the Indonesian Nationalist Party (Partai Nasional Indonesia—PNI), 22.3% of the total; the Council of Muslim Organizations (Masjumi),20.9%; the Orthodox Muslim Scholars (Nahdlatul Ulama—NU),18.4%; the Indonesian Communist Party (Partai Komunis Indonesia—PKI), 16.4%; the United Muslim Party, 2.9%; and the Christian Party, 2.6%. PKI at the height of its power in 1965 had an estimated three million members and was especially strong on Java. http://www.nationsencyclopedia.com/Asia-and-Oceania/Indonesia-POLITICAL-PARTIES.html

[202] The Jakarta Post, Monday, October 6, 2003, "History book rewrite to focus on Soeharto issues" http://iiasnt.leidenuniv.nl:8080/DR/2003/10/DR_2003_10_10/OneFile.

645, 1985 (SK Menaker RI No.645/Men/1985), stipulating relations between the various agents involved in the production of goods and services based on the five principles of Pancasila. Pancasila Industrial Relations emphasizes cooperation and partnership between employees, employers, and the government with the aim of building an ideal industrial society (SMERU 2002).

Despite the noble goals, the fact is that the workers were underrepresented and were not allowed to be involved in political activities or to form their own independent unions. The Soeharto government continued to associate labor activism with the Indonesian Communist Party (*Partai Komunis Indonesia*-PKI), as the Indonesian government noted in a submission to the United States Trade Representative in November 1992: "One possible inroad for communist subversion is through worker unrest. The Government especially fears that the communist ideology might be attractive to young people who did not live through the national distress of the 1960's, and many of those young people can best be reached on the job through labor disputes."[203]

Eventually as Wood (2005: 21) notes:

> The labor movement met with fierce opposition throughout Suharto's tenure as president, and only began to take hold in the aftermath of the 1997 financial crisis when the International Monetary Fund forced Indonesia to adopt Western-style labor rights as part of a $14.1B economic bailout. Suharto's suppression of unions was an integral part of his strategy to promote exports by luring international investors to a country whose labor was kept artificially inexpensive. After Suharto's bloody crackdown of Communists in 1965 he permitted only one union, and appointed that union's leaders directly (Arnold 2004).

[203]Human Rights Watch, September 1993 Vol. 5, No. 15, http://www.hrw.org/reports/pdfs/I/INDONESA/INDONESI939.PDF

While the capitalist view of development has been fairly represented by the academics and technocrats in the policy elites (made possible by the generous scholarships provided by the US and other western countries), the near-socialist and indigenous view of development remains under-represented.

It is of course difficult to grasp and to identify what is the 'indigenous concept of development'. The closest approximation of the indigenous view were those proposed by the former Vice President Hatta[204], one of the founding fathers of Indonesia, with his concept of 'ekonomi kerakyatan' (the people's economy).

Bresnan notes that as early as 1955 the economic architects of modernisation in Indonesia, Mohammad Hatta and Sumitro Djojohadikusumo, both economists trained in the Netherlands, had formed around them a core of economic thinkers who have to a greater or lesser degree controlled Indonesian economic direction ever since (Bresnan 1993: 77). Widjojo Nitisastro, a leader of the economic thinkers or the 'Berkeley Mafia', who later on lead the BAPPENAS[205] from 1967-1983, articulated their approach as being in favour of "an economic system based on the joint efforts of the entire community, with the objective of achieving a higher level of per capita income and an equitable distribution of income, with the state playing an active role in guiding and implementing economic development." (Nitisastro 1970). This view of '*ekonomi kerakyatan*' is actually similar with Article 33 of the constitution (Cone and Everett 2003).

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[204] Hatta had been a tireless supporter of Indonesian independence since his days as a student in the Netherlands in the 1920s. He was a Minangkabau from Sumatra and a faithful Muslim. During the 1940s and 1950s, he was seen as an advocate for the interests of Muslims and people from outside of Java. He resigned as Vice-President just before the PRRI rebellion, and while he did not support the rebellion, he was sympathetic to the rebels' concerns. He continued to play a role in public life into the 1970s. http://home.iae.nl/users/arcengel/Indonesia/1950.htm

[205] Bappenas: the Economic Planning Body is founded in 1963.

The concept of *ekonomi kerakyatan* is actually very similar with the socialist view of development, although the socialist view is not incompatible with the capitalistic model of development. As Gabriel (1998) argues:

> As for the more ambiguous term, socialism, the intellectual and political leader of the Bolsheviks in Russia recognized that capitalism and socialism were not incompatible. On the eve of the Bolshevik Revolution of 1917, Vladimir Lenin wrote that "Socialism is nothing but a state-capitalist monopoly used for the benefit of the entire nation and thus ceasing to be a capitalist monopoly." Thus, it appears that Lenin is defining socialism as a variant form of capitalism, rather than a different type of society from capitalism.

However, during its development, the economic strategy of these economists has been narrowed down to a capitalistic view of development, putting strong emphasizes on foreign investments to resolve the 1966 economic crisis in the form of the Inter-Governmental Group on Indonesia (IGGI). The new regime also abandoned its nationalist policies in politics and economics and encouraged foreign investments through the foreign capital investment law enacted on Jan. 1, 1967.

The concept of '*ekonomi kerakyatan'* is not without its supporters. One of the strong proponents is the group of economists who mainly come from The University of Gajah Mada[206] (UGM), like Prof. Mubyarto. Other scholars actually also come from FEUI (Faculty of Economics University of Indonesia), like Prof. Sri-Edi Swasono and Prof Sarbini. The term '*ekonomi kerakyatan*' is also called '*ekonomi pancasila'* which in theory should be highly acceptable by the new order government that had always considered the term 'Pancasila'[207] as sacred. But it seemed that even Soeharto, who had

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<http://home.iae.nl/users/arcengel/Indonesia/1950.htm>

[206]UGM is to be considered among the top four of universities in Indonesia, namely: Institute Technology of Bandung (ITB), University of Indonesia (UI), University of Gajah Mada (UGM) and the Agricultural Institute of Bogor (IPB).

[207] These five principles were announced by Soekarno in a speech known as "The Birth of the Pancasila,"

conveniently used and abused Pancasila for political purposes, prefered the capitalist view of development by his emphasis on 'growth' and in many of his speeches in the 1990s that the 'pie' of development needs to be enlarged in the first place before it could be redistributed (or in the economic jargon usually referred to as the 'trickle down effect').

However the '*ekonomi kerakyatan'* had failed to attract massive endorsement, either from the government or from academics. One reason given by the (neo-classical) academics is that the concept of '*ekonomi kerakyatan'* is not clear, the methodological framework and its application towards pragmatic economic policy are not so attractive and apparent to the technocrats.

Based on the fact that the workers were being repressed of their socialistic views, and these workers are one of the main ingredients of the would-be middle-class society, we could expect that the resulting middle class would be very 'capitalistic' in nature. The emerging middle class in Indonesia, as it was discussed previously, is very dependant on the elites and foreign capital. As such they were probably not carried their indigenous identity as well.

We can conclude then that with the repressed working class, and the emerging materialistic and capitalistic middle class, most of society's preferences would surely point to capitalism. The near-socialism views, that supposedly acted as a balancing

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which he gave to the Independence Preparatory Committee on June 1, 1945. In brief, and in the order given in the constitution, the Pancasila principles are: belief in one supreme God; humanitarianism; nationalism expressed in the unity of Indonesia; consultative democracy; and social justice. Beginning in 1978, a national indoctrination program was undertaken to inculcate Pancasila values in all citizens, especially school children and civil servants. From an abstract statement of national goals, the Pancasila was now used as an instrument of social and political control. To oppose the government was to oppose the Pancasila. To oppose the Pancasila was to oppose the foundation of the state. (US Library of Congress) http://countrystudies.us/indonesia/86.htm

force to capitalism, unfortunately remained underrepresented, as well as the indigenous view of '*ekonomi kerakyatan'*.

7.2.4 Soeharto's New Order

Soeharto regime, also known as the 'New Order', was in power from 1965-1998 and is to be considered an authoritarian one. During his leadership Soeharto was able to manipulate both the army and the parliament to be always in agreement with his decisions and policies. Shiraisi (2003) describes Soeharto's style of government as centralized, militarized and authoritarian. Having taken power from Soekarno in times of crisis and instability in 1965, Soeharto promised two main goals for the Indonesian society, namely stability and development (economic growth). In order to provide legitimacy and justification for his authoritarian style Soeharto reconstructed the path of capitalist development by inviting foreign investment to resolve Indonesia' s 1966 economic crisis in the form of the Inter-Governmental Group on Indonesia (IGGI). The new regime also abandoned its nationalist policies in politics and economics, and encouraged foreign investment through the foreign capital investment law enacted on Jan. 1, 1967.

The development policy of the New Order is defined in the Five-Years Plan known as REPELITA that started in 1969[208]. The main aim of REPELITA is supposedly "…to establish a government of the State of Indonesia which shall protect the whole of the Indonesian people and their entire homeland of Indonesia and in order to advance the general welfare, to develop the intellectual life of the nation and to

[208]REPELITA is a planning document produce by Badan Perencanaan Pembangunan Nasional (BAPPENAS) -- the National Development Planning Agency – after interpreting GBHN, the "Broad Outlines of State Policy" that is drafted by the Indonesian Parliament. The government annual budget is

increase Indonesian prosperity..”[209] by adopting a growth-orientation development strategy.

Soeharto always maintained a ‘trickle-down hypothesis’ in justifying the large businesses or conglomerates dominating the national economy. Soeharto’s acquaintance with the conglomerates has a long history. Indeed it was during the 1960s in Central Java that Liem Sioe Liong (one of the richest men in Indonesia[210]) satisfied the basic day-to-day needs of Soeharto’s platoon division in Central Java. The good mutual relationship between the two was such that the political connection allowed Liem and his business empire (the Salim group) to grow behind monopoly privileges and tariff protection to become Indonesia’s largest industrial and financial conglomerate.[211] Azis (1999) notes that:

> There was a perception among policy makers and the business community that large business enterprises or conglomerates, whether state or private owned, are essential if the country is to catch up with modern technology and compete internationally. It is not surprising, therefore, that many large business enterprises, including those owned by Indonesian families of Chinese descent, owe their size to government favors, including preferential access to government contracts and licenses.

The Repelita established foundation of development which is manifested in the Development Trilogy: stability, growth, and distribution. Stabilization is conducted by implementing of political stability through: party ‘fusion’ from 10 parties to be three

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usually proportional according the importance stated in the REPELITA.

[209] The preamble of 1945 Constitution of The Republic of Indonesia.

[210] By 1990 Liem was Indonesia's richest man, presiding over a corporate empire under his Indonesian name of Salim which stretched across Asia, into Australia and the United States and pulled in billions of dollars and employed hundreds of thousands of Indonesians. (Sydney Morning Herald Indonesia, January 24, 1998)

[211] Soeharto seemed to have also shared and enjoyed the wealth of Liem. Forbes Magazine lists Soeharto as one of the wealthiest people in the world, with a personal fortune estimated at $16 billion. The magazine says his family's combined wealth totals about $40 billion -- nearly the same amount the International Monetary Fund has been trying to pump into Indonesia to save its economy for the past

parties, labor union co-optation, abolishing the opposition party, and supervising or controlling tightly the democratization movements. The economic development was basically growth oriented, which started with the industrialization strategy of import substitution and with the export orientation in the 1980s; meanwhile distribution is expected to be realized after economic growth is reached.

During his leadership, Soeharto had a total of 9 cabinet ministries where since 1968 the cabinet ministries have been labeled as 'Development Cabinet'. The number of ministries during each cabinet numbered around 30 ministries. Some ministries held more important role than others in development planning. Rosser (2002: 43) notes that:

> During the 1980s, it was the State Secretariat and the Ministry for Research and Technology that were to emerge as the most influential politico-bureaucratic players in the policy-making process. The former was to be granted control over the allocation of government supply and construction contracts in 1980, a power that it retained until 1988. With two strongly nationalist politicians, Sudarmono and Ginanjar Kartasasmita, in charge of the Secretariat, this power was used to promote the cause of numerous indigenous business groups (Winters 1996:123-139; Pangaribuan 1995:51-73).

Ginandjar Kartasasmita was another Soeharto favorite who had been since the early 1970s been a champion of protectionism for indigenous entrepreneurs. However, after the economic crisis in 1997, Ginandjar seems to have changed his paradigm by favoring the IMF advice and began to side with the economists-technocrats (Liddle 1999).

On the other hand, technocrats who have dominated the economic policy-making were considered to be liberal in their paradigm. The technocrats of the Indonesian economic architecture mostly came from a group called the 'Berkeley Mafia', consisting of Indonesian economists educated in Berkeley and also members of

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eight months. (The Washington Post Tuesday, June 2, 1998)

the Faculty of Economics University of Indonesia (FEUI), like Widjojo Nitisastro, Emil Salim, Ali Wardhana, Soemitro, and Radius Prawiro. The "Berkeley Mafia" economic school of thought of capitalism had obviously defeated earlier models of development proposed by one of the founding fathers of Indonesia, Hatta, which adopted a more socialist development view (Arief 1995: 104). Soeharto obtained his first basic knowledge about economics from these liberal FEUI economists (Sadli 1993 cited in Thee 2003: 21).

We could view the process of economic policy-making in Indonesia as a battle between the 'nationalist[212]' in the bureaucrats and the majority of the ministerial cabinet on one side, and the 'capitalist' in the technocrats consisting mainly of the economics advisors[213] of Soeharto on the other.

As the 1945 constitution gave the state a legitimacy to use the nation rich natural resource for the greater good, Soeharto with the enormous revenues from oil exports combined his political and financial resources and turned Indonesia into a form of developmental state. Combined by the opening of foreign investments, the massive influx of capital coming from FDI and oil revenues surely will result in high economic growth, whatever disturbances or distortion that would happen. That was why, despite the growing problems of corruption[214] and inefficiencies, the Indonesian economy was still able to perform relatively well – providing yet another justification for the New Order government. Systematic exploitation of natural resources, as shown among other

[212] The 'nationalist', however, did not always subscribe to Hatta's original ideas.
[213]These liberal technocrats played an important role as macroeconomic managers and mediators in relation with the World Bank and IGGI (Rodan, et.al. (1997) in Hadi (2005: 59)).
[214] There were intensifying complaints against the endless greed of the Soeharto family and of a tiny minority of extremely wealthy Sino-Indonesians, most of whom were also closely associated with the Soehartos. (Liddle 1996)

things, by the establishment of PERTAMINA, provided Soeharto with the basic capital for the development process. Without vast reserves of oil, timber, minerals, and other resources, the Indonesian economic story would be very different.[215]

The fact was that PERTAMINA was used by Soeharto and his comrade, Gen. Ibnu Sutowo[216] to build a vast empire that encompassed manufacturing, shipbuilding, hotels, tourism and agriculture in addition to oil exploration and development. PERTAMINA was also used to finance some military projects and to build roads, schools and hospitals. The close personal relationship between Soeharto and Pertamina's head, Gen. Ibnu Sutowo, meant that Sutowo was able to circumvent rigorous inspection by more liberal oriented technocrats in the Department of Finance and the Bank of Indonesia (Abbott 2001).

The revenues from Pertamina have enabled the nationalist bureaucrats to create a state-led industrialization policy by investing in a steel company (Krakatau Steel), fertilizer, and other metal and petrochemical industries. As a result, the value of investment by the state in 1967-1980 period was dominated by the state.

Table 7-3 The Value of State and Private Investment in Indonesia, 1967-1980 (in %)

Investment by the State	58.75
Investment by the non-native (local chinese or sino-indonesian)	29.95
Investment by the Pribumi	11.2
Others	3.10

Source: Tempo, 4 March 1981 in Hadi (2005: 171).

[215] The Case Study of Indonesia, by Charles Victor Barber, World Resources Institute, Section III, µhttp://www.library.utoronto.ca/pcs/state/indon/indon2.htm§

[216] According to Wibisono (1998) [quoted in Hadi (2005: 249)], Pertamina under Ibnu has applied the conception of 'Indonesian Corporated'.

The Pertamina affair revealed the problems of what Australian economist Richard Robison, in a 1978 article, called Indonesia's system of "bureaucratic capitalism": a system based on "patrimonial bureaucratic authority" in which powerful public figures, especially in the military, gained control of potentially lucrative offices and used them as personal fiefs or appendages, almost in the style of precolonial Javanese rulers, not only to build private economic empires but also to consolidate and enhance their political power. Because Indonesia lacked an indigenous class of entrepreneurs, large-scale enterprises were organized either through the action of the state (Pertamina, for example), by ethnic Chinese capitalists (known in Indonesia as cukong), or, quite often, a cooperative relationship of the two.

In May 1976, Mohamad Sadli, the minister for mining, confirmed that Pertamina had combined debts of over $10 billion, almost two-thirds of Indonesia's GNP at the time. At the time of Pertamina's crisis, the technocrats seemed to have gained the upper hand by dismissing Sutowo from Pertamina. However, as Sadli himself explained that Soeharto was only willing to side with the technocrats once "we convinced him that what Sutowo was doing was dangerous for the country" (Abbott 2001). Winters (in Abbott 2001) cites a former minister for Industry, Soehoed:

> The technocrats are very good at scaring the old man [Soeharto]. They keep him on the razor's edge, and that's how they get their way. They tell him that if he doesn't follow their suggestions the people will go without food and clothes , or the economy won't grow.

Despite the inefficient and corrupt state apparatus in Indonesia, the government continued to perform quite well in distributional terms. A growing percentage of the population in most regions of the country were able to seize the opportunities created by the booming economy and to lift themselves into the middle class. Hal Hill stated

that “the percentage of the population in poverty in both rural and urban areas in 1993 was about one-third of that in 1976” (Hill 1996: 93).

To ease some demands in rural areas and other regional governments, the Central Government provided some off-budget measures to help local governments in handling the poverty problems in the form of INPRES Grants; it was a funding mechanism system which allowed direct grants to be made by the central government to local governments in two important fields: education (SD INPRES, the expansion of primary school) and health services (PUSKESMAS). The criteria for receiving the grants, however, were arbitrary such that it was being abused for political reasons to encourage endorsement for the ruling party.

In addition, the distributional policy also took place across spatial boundaries. Provincial and district budgets were being channeled with subsidy funds by the central government, which also implemented a wide variety of local level welfare programs, including school and health-center construction, staffing, and equipping, road- and bridge-building, reforestation, and so on (Liddle 1999: 12). What Soeharto did was merely transferring revenues from resource-rich provinces, such as Aceh and Kalimantan, to other resource-poor provinces.

In conducting and implementing its economic policies, the New Order had a high degree of autonomous supremacy and was insulated from the pressures of other parties. The President and his ministers did not have to compromise with any other part of the government apparatus over economic policy, the bureaucracy had been a compliant administrative tool, and there was little real scope for public resistance to government action due to the oppressive role of the military. As a result, when

economic challenges or crises had arisen, the government was able to move promptly, make difficult and unpopular policy decisions, and implement them. The relative autonomy of the political executive and the decisiveness of the policy process had greatly facilitated the task of maintaining by and large a sound macroeconomic framework as well as liberalizing trade, investment, and financial regulations when this became necessary and unavoidable (MacIntyre 1999: 17).

In conclusion, Hadi (2005: 60) notes that the liberal-capitalistic development model provided large benefits to the upper level bourgeoisie groups, like the army[217] and foreign investors. The liberal-capitalist policy benefited the army in preventing the spread of communism in Indonesia.

Even then Soeharto's economic policies could not be seen to be 'purely' liberal-capitalist. Hadi (2005: 61) sees Soeharto to have a fragmented vision of economic policy. At one time during the oil boom, the nationalist was given more space in the economic policy arena by using its protectionist industrial policy. After the oil boom, in the 1980s, deregulation was the buzzword in the economic policy circles where the liberal-neoclassical technocrats were mostly in charge.

However it is clear that the Soeharto administration had used 'development' as the ideology and main theme of his governmental policies (all of his cabinet ministries was called “development cabinet”), where later on 'development' is often narrowly defined as 'economic growth'. In turn, capitalism had been given a pivotal role during the New Order, which was supported by both the technocrats who generally had a neoclassical and liberal economics ideology.

[217]The army took control of all nationalized Dutch enterprises in the late 1960s (Hadi 2005: 163).

7.2.5 Habibie's transitional period

On May 21, 1998, Soeharto resigned from his 32 years at the helm and was succeeded by his vice-president, Bacharuddin Jusuf (B. J.) Habibie. Soeharto was an army general and had been managing a mutually beneficial relationship with the army since he took power in 1966. On the other hand, Habibie is a civilian engineering scientist with the longest government service as Minister of Research and Technology since Soeharto asked him to return to the government in 1974. Habibie always saw Soeharto as his 'teacher' in politics and was hence actually rather disappointed when Soeharto seemed reluctant to pass the presidency to him in 1998 (Liddle 1999). As soon as he was in command, Habibie promptly loosened the tight cencorship on the national press, allowed the forming of new political parties[218] and promised to deliver a 'truly' free and fair democratic elections in 1999. Habibie's policies were staggering, remembering that in 1994 he has caused the largest National political magazine, *Tempo*, to be banned.[219]

Habibie's policy to embrace democracy shed some hope that Indonesian could be released from its authoritarian regime and that the people would have their voices heard.

Liddle (1999: 5-6) described Habibie as below:

> Habibie is a German-schooled aeronautical engineer who rose to a vicepresidency at Messerschmitt-Boelkow-Blohm in Hamburg before returning to Indonesia at Soeharto's request in 1974. His principal

[218] During Soeharto era, only 3 political parties were allowed.

[219] When Tempo was banned in 1994, the proximate cause was a story about an internal government split -where the ministers of finance (Mar'ie Muhammad) and defence (Edi Sudrajat) critical of the funding and benefits of the project- over the purchase of 39 former East German warships placed by Habibie, who at the time was Research and Technology Minister. Soeharto was reportedly furious that the magazine had dared to air a cabinet controversy in public and the Ministry of Information moved quickly to revoke the magazine's license. (Bringing Back a Legend: Tempo Magazine Reopens in Jakarta by A. Lin Neumann, http://www.cpj.org/dangerous/1998/11_13_98/tempo.html)

> assignment was to develop an Indonesian aircraft-manufacturing capacity. He did this with great gusto and at enormous unrecoverable expense to the state budget, earning him the lasting enmity of virtually all of the country's trained economists. He also headed the state ship-building company and supervised several other key state-owned "strategic industries," including munitions factories.

Habibie named his own cabinet the "Development Reformation Cabinet" (Kabinet Reformasi Pembangunan) (Kawamura 2003: 27). Habibie did not have the luxury of massive political and economic resources that Soeharto had. Habibie's relationship with the military was not good[220], and he had been opposed frequently by the economics technocrats of the Berkeley Mafia because of his ambitious mega-projects that had costs the state's budget dearly. As Minister of Research and Technology for 20 years, he tried to develop technology-heavy but capital-intensive "strategic industries" like steel and transport. Habibie, despite his 20 years of service, had not been in the limelight of national politics. He was usually seen as one of Soeharto's assistants. Liddle (1999) wrote that while Soeharto was for three decades the "father of development," Habibie was the "king of high-technology import substitution," the leading promoter in the New Order of an approach to development that cost the economy billions of dollars in investment capital with little or no return (Liddle 1999).

Habibie was known for his pro-nationalism ideas and logically would side more with the nationalistic bureacurats rather than with the technocrats. In a National Dialogue held by HIPPI (Himpunan Pengusaha Putra Indonesia-The Organization of

[220] During the 1970s, control of several ABRI industries was transferred to the Coordinating Agency for Strategic Industries, headed by Habibie. This body covers 10 strategic industries, including the IPTN aircraft company, Krakatau Steel, the shipbuilding company PT PAL and the weapons and ammunition factory, PT PINDAD. This has caused tensions between Habibie and the military, since Habibie was viewed as 'over the line' by seizing the authority from the military business group. (Balowski, 1998)

Indonesia's Young Entrepreneurs) he proposed a reconstruction of the national economy resources distribution or productive asset redistribution (Wangsa 2004: 81).

Habibie also aspired to emulate the Japanese success in acquiring high-technology capabilities, though unlike Mahathir of Malysia, Habibie was never interested to learn specifically the Japanese trading and industrial policies (Hadi 2005: 251).

Soeharto seemed to have merely used Habibie as an icon for the nationalist high-tech industry that acted as ivory tower and source of national pride for achievement in technological capabilities. Habibie's influence was actually unstable as Soeharto, forced by the shrinking central government budget, had to listen to his economics ministers, who wanted to scale down if not eliminate Habibie's ambitious projects.[221] However by 1993, the economist-technocrats had been sidelined. Habibie then pushed interventionist industrial policies that were costly and bound to fail.[222] Habibie also has a long history of political, policy, and personal conflict with his Coordinating Minister for the Economy Ginandjar Kartasasmita[223]. That is why it was

[221] Although he did not graduate from Berkeley, Anwar Nasution is also a Professor and Economist from the University of Indonesia and a Senior Deputy for the Central Bank. He was among the many economists that has blamed Habibie's project for inefficiencies and wastage, comparing him with the former PERTAMINA director, Ibnu Sutowo that nearly bankrupted the Oil State Agency. (http://www-b.tempo.co.id/ang/min/02/32/utama4.htm) Radius Prawiro, one of the Berkeley Mafia, also once remarked, "First Habibie comes to the government for the money to make the airplanes. Then he comes back for us to buy them." (Balowski, 1998)

[222] Arndt said the real troublemaker was Habibie, an engineer with no understanding of economics. Indeed, as of now the icon of Habibie's industrial policy, IPTN or now is called PT DI (Dirgantara Indonesia) has been under serious financial problems. After undergoing a financial restructuring in 2000, the company has narrowed down its business focus on the making/selling of CN-235 aircraft. The number of employess has to be cut down from 16,000 to 9,600. The problems still remains, the current debt that still has to be paid is still at Rp 3.17 trillion while the business contract value remained low compared with the number of employees. As such in order to just financing the operational cost of Rp 25 billion/month the company is struggling to make ends meet. http://www.angkasa-online.com/13/11/fokus/fokus1.htm

[223] Mr Kartasasmita, previously one of the nationalist bureacuracts, after the 1997 financial crisis had changed his paradigm by supporting the IMF policy prescriptions.

surprising that Habibie later on announced an enhanced advisory role for Professor Widjojo Nitisastro[224], the University of Indonesia economist who is considered the architect of New Order development policy.

During Habibies period, the concept of Ekonomi Kerakyatan (People's Economy) had gained some momentum. The issuance of Parliament Decree (Ketetapan MPR) Tap XVI/MPR/1998 had advocated that Ekonomi Kerakyatan to be the economic system suitable for Indonesia. Also Habibie had put Adi Sasono into his cabinet as the Cooperatives Minister. During Soeharto's administration, Cooperatives Minister usually only stood on the margin, since important economic policies were usually made in the Finance Ministry, BAPPENAS, and State Secretariat. But as soon as Sasono took charge, he has soon reckoned to be one of Indonesia's most influential officials. Sasono was said to finally posses the power to carry out his ideas on what he called a "People's Economy."[225] Sasono was a well known grassroots and Muslim activist, and NGO specialist. After Soeharto came to power, Sasono joined car-maker Krama Yudha as one of its executives. He also spent some time working for Habibie in the Ministry of Research and Technology. In 1979, Sasono returned to full-time non-government grassroots work. He eventually became chairman of the Habibie-sponsored CIDES, a think-tank for social and political issues.

In order to achieve his goals of developing 'ekonomi kerakyatan', Sasono used a subsidized credit that was channeled to cooperatives and small-businesses. Again, the University of Indonesia's economists were against it. The economists worried about the market-distorting effect of too much cheap credit. Sasono's ministry was granted 20

[224] Widjojo had been Soeharto's chief economic advisor from the mid-1960s to the early 1980s. Informally he was still being consulted by Soeharto for economic advice until the end of Orde Baru.

trillion rupiah (US$2.67 billion at current exchange rates) for relending at interest rates as low as 16 percent. Since deposit rates can be as high as 50%, the economists feared the money will simply be placed in bank accounts, with co-op managers pocketing the yields.[226] On the one hand, Habibie seemed comfortable with Sasono's brand of economic nationalism, remembering the latter's history as one of his allies. Habibie even prepared a budget of Rp 10.8 trillion to be channeled into Sasonos's cheap credit program.[227]

One point to note about Habibie was that, unlike Soeharto, Habibie had explicitly developed his own model of how the economy should grow. Habibie offered a 'new' economic policy model in 1993, which was labeled by some as 'Habibienomics'. Habibie's idea was of course not new. Habibie's idea just resembled the idea of industrial policy (or developmental state) that put emphasis on the mastering of high-level technology and used technological capabilities as the driving force for economic development (Juoro 1993). 'Habibienomics' argued that Indonesia should invest heavily in technology to give an added value to domestic production, which, in the long term, will create spin-offs across the industry.[228]

7.2.6 Conclusion

The apparent capitalist development path that was taken by Indonesia was actually not even mentioned in the Indonesian constitution. On the contrary, the 1945

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[225] www.asiaweek.com
[226] www.asiaweek.com
[227] detik.com
[228] Habibie's "big bang" theory of development was never popular with international financial institutions. On February 14, 1998, the London Financial Times wrote that diplomats and business people would roll their eyes and "crack jokes about his zigzag theory, which held that high interest rates boost inflation and should therefore be brought down, raised again and lowered once more to promote economic growth" (Balowski 1998).

Indonesian constitution actually opposes the notion of capitalism (by proposing a system called "Economic Democracy") as Swasono (1995: 84) states "The welfare of the society should be emphasized and not individual welfare. As such the economy should be built as a joint effort based on '*azas kekeluargaan'* (family system). The structure of company that is suitable then is cooperative (*koperasi*)".

Two major poles were controlling the formulation of economic policy in Indonesia; one were the technocrats, and the other were the nationalist-bureaucrats. However, due to the overwhelming powers held by Soeharto (partly because of the immense authority given by the Indonesian constitution) during the New Order, the final decision on policies were decided by Soeharto.

During the Soeharto era, we saw ups and downs in the capability of technocrats in influencing the policy processes. The reason was that the nationalist bureaucrats were able to offer more attractive 'policy package' to Soeharto, a policy that was feasible to foster economic growth and yet also able to provide Soeharto and his cronies with a huge personal wealth. Not until a crisis occurred did Soeharto take the advice of the technocrats more seriously.

The economic nationalists—including Habibie—advocated government leadership in directing resources into industries (whether it was high-tech or not) in pursuit of development, while the technocrats were fairly mainstream neoclassical economists and therefore more market oriented. Policy successes tended to originate from the technocrats through foreign investment in Indonesia. In turn, to gain personal wealth, Soeharto created an environment in which every investor needed a partner with

connections to Soeharto in order to be able to conduct business smoothly (Cassing 2002).

Knowing his limited capabilities as a scholar, Soeharto used Habibie as an icon for his economic policy making. Habibie, with his excellent educational background, provided an advantage to Soeharto in dealing or reasoning with the technocrats (represented by the Berkeley Mafia). To be clear, the concept of economic development adopted by Soeharto and Habibie was different. Habibie favored a protectionist scheme for high-tech domestic industries to achieve economic growth, also known as 'Habibienomics'. Soeharto favored a state-led development policies which resulted in the emerging Chinese Conglomerates that has dominated the Indonesian economy up to now. Made possible by the lucrative revenues from natural-resource industries, Soeharto and Habibie were able to pursue their policies autonomously. Using the government's budget revenue from the oil windfall profit, Habibie created industries and research institutions based on high technology. Later on, to market his high technological products, he used his political power to approach several government-owned companies and institutions to buy those products (Amir 2003).

The indigenous thought of economic policy-making, represented by the '*ekonomi kerakyatan'* paradigm, had failed to get considerable attention from the policy makers, despite its legal backing from the 1945 constitution and its political backing by using an alias of '*ekonomi pancasila'*. The Indonesian people in general, most of whom did not own capital due to poverty, seemed to be left behind in the economic development process.

This was true in the Soeharto era, because both the nationalists -that favored a protectionist strategy for certain industries-, and the technocrats -that supported a more liberal and free market regime- only gave the huge shares and benefits of economic development either to domestic (either indigenous or not) capitalist elites or to foreign capitalist.

In the Habibie era, even though Habibie actually did not favor the '*ekonomi kerakyatan*'[229], the emerging and increasing role of Adi Sasono that supported small businesses and thus the 'ekonomi kerakyatan' paradigm provided some heighten attention towards the concept. But because of its weak concept partly due to its off-stream label in Indonesian economics scholarship, the economic policy of '*ekonomi kerakyatan*' appeared to be captured by predatory domestic capitalists in the end.

The failure of 'ekonomi kerakyatan' concept to develop, to view it as an alternative or indigenous development paradigm, could be attributed to the historical factors of the PKI (Indonesian Communist Party). Using PKI as his single 'constitutional' reason to stage a takeover in 1965, Soeharto had been repressing the leftist or socialist view of development, shown by denying the rights of workers to form unions and by banning the teaching of Marxist thought even in Universities.

However to simply label the Soeharto government as 'not responsive' to the indigenous demands, or unsuccessful in utilizing local inputs – policies that respond to local conditions and problems - seemed to be an oversimplification. The next question arising is of course how we should measure responsiveness? Does responsiveness mean that when the ideas from the grassroots level are being noted or being discussed openly means responsive? Does the inclusion of certain policies for the general public, such as

the policy to eradicate poverty or to provide free education considered responsive? Alternatively, should we directly look at the result of those policies instead?

Indeed it is difficult to 'measure' responsiveness, not to mention the fact that as we attempt to 'measure' something, we usually limit ourselves to those phenomenon that is 'measurable' or to '(quantitative) indicators'. Other phenomenon that is not measurable would not be given adequate emphasis.

The Soeharto government did show responsiveness to some local inputs. For instance, the indigenous (or '*pribumi*') dissatisfaction over Chinese wealth that arose early in the Soeharto regime, and provoked an early instance of anti-Chinese rioting in 1974 has caused an issuance of the Presidential Decree to give preferential treatment to "economically weak groups" in 1979 (Coppel: 154). Even though the scheme was also criticized as benefiting only a handful of businessmen who were selected on the basis of favoritism. Soeharto's preferred mode, when under pressure to do more for the pribumi economically, was the grand gesture; such as his 1990 Tapos speech where he assembled the most prominent Chinese businessmen, and pleaded them to transfer 25% of their wealth to the co-operatives sector, a long-held symbol of egalitarianism in Indonesian society (Jesudason 2000).

Also there is a professional consensus in the literature that the reasonably good record on spatial disparities in Indonesia, particularly in terms of its non-income dimensions, should be linked to a policy regime during the long reign of Soeharto that sought to enhance the living standards of the poorer provinces, especially those located in the Outer Islands, through a centralized system of inter-regional income transfers. In this sense, the central government acted as an important vehicle for spreading the

[229] It was shown by the concept of 'Habibienomics' that Habibie has introduced.

windfall gains from the oil price boom and the inflow of foreign aid to the various regions of Indonesia. Central transfers for health, education and infrastructure have, to a certain extent, significantly improved economic and social indicators across the regional communities of pre-crisis Indonesia (Islam 2003).

7.3 'Traditional' versus 'Modern' in Economic Development

There has always been a tendency to associate 'industrialization' with 'modernity' and 'rural-agriculture' with 'traditional' or 'primitive[230]'. Perhaps it is because an industrialized society is viewed as more 'developed' and thus being more 'modern' than 'traditional-agriculture' society.

Adam Smith probably made this association early on, as Meek quoted by Ougaard (2005) wrote:

> Smith was probably the first thinker to put forward the immensely influential notion that societies normally tended to progress over time through four more or less consecutive and distinct socio-economic stages, each based on a different mode of subsistence, namely, hunting, pasturage, agriculture, and commerce. To each of these bases, in Smith's account, it as assumed that there corresponded a different superstructure of political, moral, and legal ideas and institutions.

According to Meek, it follows that there were inherently important conceptual principle contained in Smith's thinking. Ougaard (2005: 3-4) quoting Meek stated the conceptual principle as follows:

[230] Definition of 'primitive' is indeed problematic. As Pearson (2000) interestingly wrote:

"What is a "primitive" man? Such invidious terminology is, alas, easier regretted than replaced. Here we will follow the traditional usage, to include not only the hunter-gatherer (what English economists liked to call "the savage," and Germans called der Wilde), but also the transhumant pastoralist (the archetypal "barbarian") and the slash-and-burn horticulturist (whom the Germans came to include with the above under the rubric Naturvölker). This broader denomination is apt not so much for what it includes as for what it systematically excludes: plow culture, towns, the state—in a word, civilization."

> The first is the totality perspective, the principle of analyzing and characterizing society at a high level of aggregation and abstraction as a whole. Second is the historical perspective: society is seen in a developmental or evolutionary way, as undergoing continuous change. The third idea is the notion of periodization into stages, in other words the idea that in the process of evolution, qualitatively different stages can be identified, marked by different configurations of economic, political, legal, and cultural features. Fourthly is what later has become known as "economic determinism" …, which can also be stated as the principle of privileging the mode of subsistence – the economic base – when analyzing and explaining these different historical stages.

This view of development from 'primitive' or 'traditional' to 'modern' or 'industrialized' society probably also occurred from applying the meta-narrative of Charles Darwin's "On the Origin of Species" (1859) on the theory of evolution (Pearson 2000: 935). Soeharto's planning documents, the REPELITA, planned the take-off stage in 1994 using a Rostowian framework, in which it was assumed that at that turning-point (the 'take-off' stage) there is going to be a transformation of a traditional-agricultural Indonesian society into an industrial-modern society as had happened in developed western countries (Hadi 2005: 164).

Arief and Sasono (1980: 7-8) agreed that the replacement of traditional values of paternalism or feudalism with a capitalistic system could be the first step in the process of transformation system towards advancement as it had happened in the west, but the result actually increased the exploitative degree on the weaker class. The resulting exploitative nature of the owner of capital even could be worse than the exploitative nature of the feudal lords occurring in the traditional society.

Modernization and development involves and requires a transformation of values besides material development. As Castles (2000) notes:

> Development was a question of instilling the 'right' orientations–values and norms–in the cultures of the non-Western world so as to enable its people to partake in the modern wealth-creating economic and political

> institutions of the advanced West. Borrowing a familiar page from Max Weber, sociologists set out to identify what those modernizing ideologies–functional equivalents to the Protestant ethic–could be. Japanese Shintoism, Turkish state secularism under Kemal Ataturk, and even certain versions of Chinese Confucianism were identified and described as likely candidates. (Portes 1997: 230 quoted in Castles 2000)

For Indonesia, the 'instant' process of modernization by importing western culture seems to be occurring. As Wanandi (2004) writes:

> In Indonesia, since the first Cultural Congress in the 1940's, the debate was whether Indonesia should be based on her own cultural and values system as has been laid down by history, with a rich cultural heritage based on Hinduism, Buddhism, and Islam, or whether it has to westernize completely to be able to modernize the society.

It is more likely that the steps towards modernization in Indonesia did not happen 'naturally' as it was pushed by both the global community and by the indigenous elites, for different reasons. The global community would like to see their capital and goods utilized and absorbed by the Indonesian people to expand their economies further, while the indigenous elites, most probably being 'instantly' modernized due to their wealth, education and access to capital, needed to actualize their ambitions and to provide legitimization for their powers.

The community at large, and to some extent the middle-class or working-class, probably does not yet have a clear vision or aspiration on how and what is to be 'modernized'. This condition was further worsened by the weak Indonesian education ideology and curriculum in molding the character of an ideal 'Indonesian Man' for modernization.

For example, as Sulaeman (2005) noted below on work orientations of indigenous Indonesians:

> Other perspectives on Indonesian work orientations found: (a) no speculation on working and life, (b) working hard is attempted just to "get food for survival for the day", and short term basic need orientation; (c) trying to get harmony with nature and stressing maintenance; (d) orientation to the present time, and (e) social contact for economic survival or business are changed to group maintenance, with proverbs "eat or not, but live together."

While for the elites, their cultural ideology was (Sulaeman 2005):

> Among elite groups, cultural work values were identified with (a) aims of living and working are for status, power and symbol of prosperity, (b) doing business, consulting business, farming, trading and manufacturing are given low values, and (c) there are 'amal' concept, oriented to achieve symbol for power, status, and prosperity, not for achievement (Kartodirdjo 1982).

It is clear that the above cultural traits were probably incompatible with the individualistic and materialistic nature of a 'modern economic man' aspired by the capitalist system. In addition, most probably this kind of 'cultural' environment would do little in 'breeding' entrepreneurs needed for economic growth to be sustained.

The work of Boeke (1948) probably is the first that seriously considered that a 'fragmented' society would occur as a result of economic growth in his 'dualistic' theory[231] (he also refered to it as the 'oriental economics'): the clash between two divergent and heterogonous social systems, the urban (capitalist) and the rural (village or pre-capitalist) society. Boeke (1948: 11-12) differentiates between the two by writing:

> In economic matters the precapitalistic society is far less coherent than is the capitalistic society, because of the general practice of subsistence farming. Social division of labor, production for exchange, economic interdependence – all characteristic of modern society – hardly exist in the village community. However, this lack of economic cohesion is made

[231] Boeke (1953: 3) described dual society as "…for societies showing a distinct cleavage of two synchronic and full grown social styles which in the normal, historical evolution of homogenous societies are separated from each other by transitional forms, as, for instance, precapitalism and high caitalism by early capitalism, and which there do not coincide as contemporary dominating features".

> up for by an intense social cohesion. Whereas in the capitalistic society every individual in principle watches over his spiritual independence, in the precapitalistic community everybody feels himself part of the whole, accepts tradition and group morale as his directives. This social coherence restricts in large measure his personal freedom, while it makes collective action the normal form of activity.

It must be remembered, however, that Boeke based his analysis on Indonesia during the colonial period. With independence, the degree of 'dualism' should be expected to be less, though probably still relevant. The effect of Dutch colonialism seems to be long lasting. Arief and Sasono (1980: 57) argue that 'Cultuurstelsel' (forced cultivation) has a far-reaching repercussion and retarding effect for the Indonesian society as the main form of exploitation responsible for underdevelopment and backwardness.

7.4 Entrepreneurship in Indonesia

Historically, an entrepreneur originally meaning 'businessman', can simply be defined as "someone who organizes and assumes the risk of a business in return for the profits".[232] Wibawa and Mukhlis (1997: 5) for example define entrepreneur as "people who change the value of resources, labor, materials and the other production factor become bigger than before", or as "people who start and do business, organize and developed firm by themselves".

Entrepreneurship has been viewed as one of the lacking ingredients for less-developed and not self-reliant economies[233]. Lacks of entrepreneurs and entrepreneurship have often been said as the cause of the low quality of

[232] http://www.econlib.org/library/Enc/Entrepreneurship.html

[233] However, Sautet (2005) argued that "the problem of poverty and development is not that entrepreneurship is abundant in some countries and lacking in others. Entrepreneurial activity is never in short supply. … while entrepreneurship is always present it may not always be directed towards socially

industrialization process happening in the LDCs despite the massive FDI flowing into those economies. Entrepreneurship seems to have a catalytic dimension in the industrialization and growth process. Entrepreneur performances also differ across countries, depended on the regional and socio-cultural aspect of each specific country[234] (Afza 2001).

Lingelbach (2005: 1) quoting Landes (1998) stated that "where it has existed in plenty, entrepreneurship has played an important role in economic growth, innovation, and competitiveness, and it may also play a role over time in poverty alleviation[235].

Kreiser, et. al. (2002), utilizing data from 1,070 firms in six countries to assess the impact of national culture[236] on two key dimensions of entrepreneurial orientation (EO): risk-taking and proactiveness[237], found that "national culture has an important and identifiable impact on the willingness of entrepreneurial organizations to engage in risk-taking and proactive firm behaviors."

The effect of education on entrepreneurship is unclear. Blanchflower (2001) found that the probability of being self-employed is lower among highly-educated workers. While a study by Inter-American Development Bank (2002) on entrepreneurship in Latin America and East Asia found that most entrepreneurs have a

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productive activities. This will depend on the incentives created as a result of the formal and informal institutions that exist in a society."

[234] Kreiser, et. al. (2002) noted that "societies vary in their ability to create and sustain entrepreneurial activity".

[235] Numbers of entrepreneurs indeed was large even in developing countries. Over 400 million individuals in developing countries are owners or managers of new firms, where over 200 million are found in China and India alone (Lingelbach (2005) quoting Reynolds et al. (2004)).

[236] Kreiser et. al. (2002: 3) define culture as "the system of collective values that distinguishes the members of one group from another" (quoting Hofstede (1980) and Mueller & Thomas (2001)), and sees national culture to act as the "common frame of reference or logic by which members of a society view organizations, the environment, and their relations to one another" (quoting Geletkanycz 1997: 617).

[237] In addition, self-employment has been often used as a 'proxy' for entrepreneurship (Salgado-Banda 2005). Self-employment is said to be the simplest form of entrepreneurial activity (Blanchflower, et. al. 2000).

graduate degree or post-graduate qualifications, although entrepreneurs also say that formal education did not play a decisive role in creating their business ventures. On the other hand, Johannisson, et. al. (1997: 1) stated that "Entrepreneurship and intellectualism are usually juxtaposed".

Hwang and Powell (2005: 179) observe that "the cornerstone of entrepreneurship is the belief in individual autonomy and discretion, a liberal creed that locates agency in individuals as the primary unit for creating new activities". Van der Sluis and van Praag (2004: 1) suggest that should "entrepreneurs face constraints such as limited human capital, then these economic benefits might not be realized", as they also found that US entrepreneurs seem to benefit more from an additional year of education than their employed counterparts. Also, Parker and van Praag (2004) relate Entrepreneurship, Capital and Schooling and call it an "endogenous triangle", whereby extra years of schooling enhance entrepreneurial performance, even more when capital constraint existed.

While entrepreneurs and/or entrepreneurship affect economic development, the environment where entrepreneurs or would-be entrepreneurs operate would determine the 'quality' and 'quantity' of entrepreneurs emerging. As Boettke and Coyne (2002) quoting Baumol (1990) and Olson (1996) noted: "the institutions that economic agents (including entrepreneurs) operate in – political, legal and cultural – directly influence their activity and hence economic development". In addition Mises, an Austrian economist[238], quoted in Boettke and Coyne (2002) wrote:

> In any real and living economy, every actor is always an entrepreneur and speculator… Economics, in speaking of entrepreneurs, has in view

[238] Austrians school of thought "stress that entrepreneurship does not describe a distinct group of individuals, but rather, is an omnipresent aspect of human action" (Boettke and Coyne 2002).

> not men, but a definite function. This function is not the particular feature of a particular special group or class of men; it is inherent in every action and burdens every actor…The term entrepreneur as used in catallactic theory means: acting man exclusively seen from the aspect of the uncertainty inherent in every action (1949: 252-3).

Further, Boettke and Coyne (2002) strongly argue:

> …that entrepreneurship cannot be the cause of development, but rather, that the type of entrepreneurship associated with economic development is a consequence of it. That is, development is caused by the adoption of certain institutions, which in turn channel and encourage the entrepreneurial aspect of human action in a direction that in turn spurs economic growth.

In addition Coyne and Boettke (2005) argue that indigenous institution were often overlooked while exogenously imposed institutions, like capital and aid, were overly emphasized. By 'indigenous institution', Coyne and Boettke (2005) give the following definition:

> The anthropologist James Scott (1998: 6-7) has revived the Greek word mētis which will serve as the foundation for our understanding of indigenous institutions. Mētis includes skills, culture, norms and conventions that are shaped by the experiences of the individual. This concept applies to both interactions between people (i.e., interpreting the gestures and actions of others) and the physical environment (i.e., learning to ride a bike). The notion of mētis is not one that can be written down neatly as a systematic set of instructions, but rather is gained only through experience and practice.
>
> Mētis is not static in nature. Obtaining and acting on knowledge should be viewed as a changing process over time. As knowledge travels between groups and international borders, new mētis is created and old mētis fades away and loses relevance. Therefore, a key problem in economic development is whether mētis has adapted to the new and changing circumstances. As we will see, if the stock of mētis does not align with reforms and formal institutions, these institutions will fail to be effective even if they are growth-inducing institutions. It should also be noted that the existence of mētis does not guarantee successful economic development. If the stock of mētis aligns with institutions that are growth retarding, economic development will not be achieved.

As such, while the liberal and capitalist environment provided by the Soeharto administration (especially after deregulation in the late 1980s) would be expected to generate 'entrepreneurs', it might have also failed to do so. As Boettke (1996) wrote:

> Economics may establish the properties of alternative rules, but culture and the imprint of history determine which rules can stick in certain environments. The problem is not one of private property and freedom of contract generating perverse consequences, but the fact that some social conventions and customary practices simply do not legitimate these institutions (1996: 257-8, italics original).

As such 'indigenous-ness' would matter. As Mises quoted in Coyne and Boettke (2005), writing on the reconstruction of Europe, argues:

> This reconstruction cannot be undertaken from without, it must come from within. It is not simply a matter of economic technique, still less of engineering; it is a matter of social morale and of social ideologies (2000: 29).

Judging from the ideology and culture of native Indonesians it is probable that post-independence Indonesia was (and is) not yet a good breeding ground for entrepreneurs.

To be more specific, the evolution of entrepreneurs is assumed to take place from working class, middle-class, and then entrepreneur. Working class, borrowing Karl Marx's definition, is a group of people without any tools of production (or capital), working mostly as unskilled workers. As the economy grows, the working class can acquire some wealth and be able to get some of the surpluses of production, not all surpluses are taken by the capitalists. This capability to retain some surplus of value from production would only be possible if they have acquired some skills[239], such that they have some bargaining power. In turn, this working class might become

[239] However, Lazear (2002: 2) stated that "…maybe entrepreneurs are created when a worker has no

investors as they purchase stocks and/or bonds, despite maintaining their positions as employees or wage-earners. When they do, they become middle class. As this middle class becomes wealthier, they would be interested to start their own business, and finally become entrepreneurs. According to McNelly (2005) "capitalism can only emerge with the rise of a "capital-oriented class – originally always a merchant class – from a subordinate position within society to a position of leverage." The box below describes some of the key findings about entrepreneurship in East Asia.

Table 7-4 Key Findings About New Enterprises and Entrepreneurship

1	**Personal profile of the entrepreneurs:** Predominantly male. Average age, 40. University graduates or post-graduates. Founded businesses in their early 30s. Financed launch mainly with personal savings.
2	**Work Experience:** From previous jobs, entrepreneurs get ideas, business skills, and professional contacts that create the basis for launching their ventures.
3	**Networks:** Dynamic firms make greater use of their social networks and their networks of clients, suppliers, and professional and commercial contacts.
4	**Teamwork:** The majority of dynamic firms are founded by a team of entrepreneurs with complementary skills.
5	**Motivation:** Money isn't everything. Entrepreneurs' motivations include the desire for personal development, contributing to society, and improving personal income.
6	**The limited role of formal education:** To a surprising degree, entrepreneurs say that formal education did not play a decisive role in stimulating their desire to create business ventures, although their university studies do provide them with relevant technical knowledge.
7	**Business strategies:** Dynamic firms share similar business strategies; they serve market niches with growing demand and their product is differentiated by quality and service, rather than price.
8	**Financing:** At the inception stage, financing for starting a business comes mainly from the personal savings of the entrepreneur and his friends and family. During the early development stage, firms tend to make greater use of external sources of financing, such as loans from banks and institutions.
9	**Business environment:** The Latin American business environment is less friendly to new ventures; financing is scarce, red tape is thick, and tax and regulatory costs are high. By contrast, the East Asian business environment is friendlier to new ventures because financing is much more readily available and outsourcing is a more widespread practice.
10	**Growth patterns:** East Asian dynamic businesses grow faster and become larger than Latin American dynamic ventures. They also have more stable networks and a more varied range of contacts than their Latin American counterparts.
11	**Business sectors:** Among East Asian entrepreneurs, there are more new knowledge-based ventures and a higher percentage of enterprises are involved in exporting.
12	**The role of the media:** East Asian entrepreneurs are more influenced by role models portrayed in the media than is the case in Latin America. East Asian entrepreneurs also find more opportunities for social mobility through entrepreneurship.

Source: Inter-American Development Bank (2002)

alternatives. Rather than coming from the top of the ability distribution, they are what is left over".

Even entrepreneurs could be further divided[240]. A simple definition of entrepreneur could be "person who undertakes the creation of an enterprise or business that has the chance of profit (or success)" (Dorf and Byers: 2005). Entrepreneurs at its simplest can take the form of businessmen; they also could be traders, industrialists and even inefficient rent-seekers. For example, Agarwal (2004) identified five types of entrepreneurs as: 1) the Opportunistic type, who was driven by expectations of financial gain, 2) the "Push" type, driven by negative "push" reasons for starting a business, 3) the Managerial type, who have high leadership, administration and environmental skills, as well as a desire for financial returns, 4) the New Craftsman type, with a high need for autonomy at work and desire to pursue a product/service idea, and 5) the Idea driven Opportunist type, which emerged as a "mixed" type". Sautet's (2005) typology of entrepreneurship includes productive entrepreneurship; evasive entrepreneurship; and/or, socially destructive entrepreneurship. As such we can see that the types of entrepreneurs came from a range of the spectrum; those with the highest degree of entrepreneurship could be regarded as 'true' entrepreneurs.

In a glance, the private sector, businesses, capitalists and entrepreneurs seem to be the same[241]. Relating to our previous discussion regarding that entrepreneurs or entrepreneurship as the main engine of growth, then an 'efficient' entrepreneur probably is the main ingredient that we are after.

[240] Entrepreneurs, in the Schumpeterian sense, are businessmen who discover new market niches by integrating production factors in order to make profits

[241] According to Milton Friedman (quoted McNally 2005), capitalism represents the "organization of the bulk of economic activity through private enterprise operation in a free market." According to McNally (2005) the conception "expresses the popular understanding of the core characteristics of capitalism: private enterprise and free markets".

In Indonesia most large businesses belong to the Chinese-ethnic community. Though small in numbers, Chinese conglomerates own most of the economic assets in Indonesia. As Chua (2005) noted:

> Chinese owned corporations constituted, however, by far the largest ones and the absolute majority of the top enterprises. In 1996, for instance, Chinese tycoons owned 22 conglomerates of the top 25 (Warta Ekonomi, 1997). Another ranking indicated that 82.6 percent of the top 300 conglomerates' total assets were owned by the 217 Chinese business groups within this tier (Backman, 2001: 194).

There is a well-known statement that "the Chinese constitute only 3.5 percent of the population but control 70% of Indonesia's economy". While the Chinese probably really did only constitute around 3.5% of the population, the fact that they have control over 70% of the Indonesian economy might be debatable[242]. Aditjondro (1998) argued that almost every Indonesian Chinese Conglomerates would have some native Indonesians also acting as one of the management executives inside the corporations. Also, Aditjondro (1998) further argued that:

> …Indonesian's Chinese minority controls nowhere near 70% of Indonesian's economy. After discounting foreign investors- such as Freeport McMoRan which controls a majority stakes in Indonesia's largest taxpayer, PT Freeport Indonesia, Inc, and Coca-cola Amatil-and state-owned companies, such as the ten strategic industries previously overseen by B.J. Habibie and the lucrative sate-owned oil company, Pertamina- in the Indonesian economy, the remaining large private companies are indeed controlled by a handfull of Chinese business families, These include Liem Sioe Liong, Eka Tjipta Widjaja, and Prajogo Pangestu and their relatives.

However, the perception of Chinese domination in the Indonesian economy is real. As Rosser (1999: 9) notes that "The mid-1970s had seen a series of

[242] Lanti (2004) notes that the Chinese entrepreneurs probably controlled more than half of the nation economy while acknowledge that they were dominant in trade, commerce, property, manufacturing, processing, transportation, and banking especially in the 1990s.

demonstrations by students, small businessmen and other marginalised groups at which the government's economic policies were criticised and appeals were made for an end to foreign and Chinese domination of the economy."

The role of the Chinese in the Indonesian economy could be traced back from the Dutch colonization in 1596-1942. The first Chinese was said to arrive in Indonesia in 17th century Batavia (now Jakarta) for economic reasons. The Dutch had intentionally separate the Chinese from the native Indonesians (or the pribumi), and has utilized the Chinese for trading monopolies, banking and tax collections. As such, the pribumi often viewed the Chinese as a subordinate of the colonial Dutch[243]. The Chinese have since spread to the outer Island of Sumatra, Kalimantan and the Eastern Indonesia.

One of the well-known big Chinese entrepreneurs during the colonial rule was Oei Tiong Ham, who has been labeled the first modern capitalist in Indonesia. Later on, the Oei Tiong Ham company was nationalized during the Soekarno administration. During Soeharto's administration, Liem Sioe Liong[244] was the most well-known Chinese entrepreneur, both in Indonesia and in Asia mostly for his outstanding wealth.

From the 40 top private business groups in Indonesia, only 10 were owned by pribumis, while the rest was owned by the ethnic Chinese. This domination probably even extends to the medium-sized firms (Berry and Levy 1994). Pribumi entrepreneurs probably dominate in the small and informal businesses.

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[243]Lanti (2004: 75) writes that "Like the British in Malaysia, the Dutch also confined the Chinese in the Netherlands East Indies to economic activity, mostly in retail and trading. However,unlike the British, the Dutch applied a status system based on race. The Europeans occupied the upperclass, the pribumi (indigenous people) were in the lowest rank, while the Chinese and other Asian races were in between".

[244]Liem Sioe Liong headed the Salim Group, which is one of the world's largest business-conglomerate groups,accounting for around 8% of Indonesia's GDP. Indonesia's President, Soeharto, has had a long relationship with several chinese entrepreneurs, Liem included, ever since he was still a Comander of the

Other scholars, like Lindblad (2002), consider that the Chinese domination in Indonesian business was actually exaggerated. In the 1950s, "the share of Indonesian firms was strikingly high on occasions, 43 % in 1951 and 50 % in 1953. Almost all of the remainder, 48 % in 1951 and 45 % in 1953, consisted of Chinese firms" (Sutter 1959: 1307 quoted Lindblad 2002: 13). In 1953, "the proportion of indigenous (or `Indonesian' as in the graph) firms is strikingly high: almost two-fifths among trading firms and one-third among manufacturing enterprises" (Lindblad 2002: 15).

However, as of 1984, the government encouraged the abolishment of the Chinese vs pribumi dichotomy, to replace it with 'national entrepreneurs/businessmen'. It was marked by the changing of an exclusively 'pribumi' oriented business organization into an open-ethnic business organization.[245] At the same time, in the 1980s, following the deregulation phase, special support to 'pribumi' entrepreneurs came to an end. Shin (1991: 142) wrote[246]:

> The Keppres nos. 29/1984 and 30/1984 were the last of the ill-fated indigenist programs...By 1985, the decision and opinion makers appeared to lean toward the final conclusion that the growth of small pribumi capitalists should be achieved by market forces and submitted to the free will of the business people involved, or to put it more appropriately, the mercy of the strong economic group.

It is not easy to discuss entrepreneurship in Indonesia, in terms of its culture or ideology, since not many resources were available on this topic. The difficulty lies in the data available. If we talk about small entrepreneurs, the quantitative data is very

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army (Lanti 2004: 78).

[245]In 1984, the Indonesian Indigenous Businessmen's Association (HIPPI; Himpunan Pengusaha Pribumi Indonesia) - headed by the President's half-brother – changed its name to Himpunan Pengusaha 'Putera' Indonesia. The word 'pribumi' (meaning 'native' or 'indigenous') has been changed into 'putera' meaning 'son' (Shin 1991).

[246]Shin (1991) views this change of policy direction in the context of the elites' ideology and initiative in creating capitalist hegemony in post-oil boom Indonesia.

limited. Turning to big entrepreneurs, not until recently, most conglomerates usually keep to themselves. For example, in the case of Liem Sioe Liong, a book published in 1989 about him even could not even get him for an interview[247]. Other books on William Soeryadjaya[248], another big Chinese conglomerate (second to Liem) who owned PT Astra International, is titled "Dare to Do" (Butler 2002). The recipe of success, interpreting from the book, is a willingness to take opportunity and risk, financial networking, anticipation and some connection with elites. The wide financial networks of the Chinese businesses are well known. Robison (1986) quoted in Efferin (2000) noted that due to the factor of financial network that the New Order had chosen to work closely with the Chinese businesses after the end of oil boom. This close relationship between business and government has given the Chinese a rather bad name of 'pariah entrepreneurs'; meaning "businessmen who depends on personal connection with powerful politico-bureaucrats for political protection and, in turn, are parasitised economically by them (Mackie 1992; Robison 1986 quoted in Efferin 2000).

It is strange that there are not many serious books on entrepreneurs in Indonesia, considering its huge population. Indonesia previously had a marvelous entrepreneur and tycoon named Oei Tiong Ham with his company Oei Tiong Ham Concern(1930s-1960s), who Kunio (1991) described as "the first business empire in Southeast Asia". Oei Tiong Ham has been described as a businessman who was willing to take risks, innovative, forward-looking, took long-term investment, invested in long-term assets, invested in manufacturing and created a professional management team in

[247] The book was written by Sori Ersa Siregar and Kencana Tirta Widya, both are Indonesian journalists.
[248]Liem Sioe Liong's conglomerate and William Soeryadjaya's Astra Corporation, hold assets that were estimated to be worth Rp. 6.4 trillion and Rp. 2 trillion respectively (US$3.5 billion and $1.2 billion) in 1988. However William did not have the same access and close relationship with Soeharto compared

managing his group of companies; in short he was described as a 'modern capitalist' (Kunio 1991 and Mackey 1991). Mackey (1991: 87) noted that the key factors of Oei Tiong Ham success were "an awareness of the need to adopt Dutch business methods and technical skills combined with a shrewd sense of timing in his purchases and sales".

However, the nationalization of Oei Tiong Ham Concern during the Soekarno administration in 1961 had virtually destroyed the entrepreneurship, and probably has a greater negative impact towards the entrepreneurship climate that probably has lasted even during Soeharto's ruling[249].

Liem Sioe Liong has a contrasting story compared with Oei Tiong Ham. Lim was just a common Chinese businessman before he met with Soeharto in Semarang in the 1950s when Soeharto was a military commander in there. However, when Soeharto took power in 1965, Liem businesses has grown rapidly. Liem was criticized for having too close a relationship with Soeharto, a relationship that was not enjoyed by other Chinese tycoons except for Bob Hasan. Liem was also viewed to have less extraordinary entrepreneurship skills compared with Oei Tiong Ham (Liem's entrepreneurial and management skills were often viewed as mediocre), as a significant number of Liem's businesses ended up in failure. These, combined with his close relationship with Soeharto had created doubts as to whether Liem was merely just another 'erzats' rent-seeking capitalist[250] (Mackie 1991). In a more neutral tone, it is

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with Liem (Mackie 1991).

[249] Kunio (1991: 26) described the nationalization incident as 'tragic phenomenon for Indonesian economy as a whole.

[250]Mackie (1991: 96) described it on a larger scale as ".. it increasingly seems that Indonesia may be moving toward a pattern of political relationships strikingly similar to Rush's picture of the nineteenthcentury opium kings "nested within the power structures" of Java".

said that Salim group followed the oscillatory dynamics between economies of scope and economies of connectedness (Dieleman and Sachs 2005 and 2005b).

Susanto (2005) provides a list of 'entrepreneur's characteristics' based on three successful Indonesian businessmen in the Table 7-5.

Table 7-5 Entrepreneur's Spirit, Behavior and Style in Practical Experience based on their Success Stories

Bob Sadino	**Purdi F. Chandra**	**Sukyatno Nugroho**	**Other Entrepreneurs**
- Dare to look different	- Imaginative	- Willing to take risks	- Never give up, persevering
- Learn from mistake	- Like to experiment	- Adaptable	- Diligent, hard worker
- Employee Empowerment	- Courage to explore	- Never give up	- Brave to act against the flow
- Decentralization	- Brave to fail	- Strong will	- Keep learning
- Enabling	- Strong will to succeed	- Persevering	- Creative
- Recognition	- Creative	- Team work	- Flexible
- Depends on the teamwork	- Skills management	- Innovative	- Willing to take risk
- Open management	- Interpersonal skills	- Ready to change	- Strong will to improve
- Friendly	- Leadership skills	- Creative	- Able to compete
- Father-son relationship	- Intuitive to survive	- Possess initiative	- Discipline
- Family atmosphere	- Optimistic	- Diligent	- Leadership skills
- Strong leadership	- Possibility and success	- Willing to learn	- Business efficiency
- Pioneering spirit	- Ambitious	- Self-reliant thinking	- Open minded
- Failure is normal		- To make breakthrough	- High spirit
			- Modest
			- Puts in best efforts
			- Quick in responding to
			market opportunity
			- Sharp in reading customer
			Needs
			- Uses of new technology
			- Self-reliant
			- To make breakthrough

Source: Susanto (2005).

Judging from the above characteristics, it is very likely that becoming an entrepreneur would require skills and a person with a strong character. Unfortunately some of the traditional ‘Indonesian Man’ ideology seems to be incompatible with the above characteristics. Aburizal Bakrie, the current Coordinating Minister for Social

Welfare and previously the Coordinating Minister for Economy and Finance, who was previously one of the successful native entrepreneurs, wrote that:

> ...the entrepreneurship spirit and behavior of the (Indonesian) society is generally still a 'trader', tend to wait and likely to be mediocre. This could be the result of a traditional-agricultural mindset, that is fully dependent on the seasons. It could also as a result of other factor, like the historical colonial trauma...in other words, passive trader mentality must be actualized to become a dynamic entrepreneurship (Wangsa 2004: 40).

Some would argue that the informal sector also has entrepreneurs, and should not be simply dismissed altogether. I would agree that there were and still many small businesses in the economy; around 86% of these small businesses work in the agricultural sector for the year 2000-2003 (Wangsa 2004: 161). However, it is difficult to assess their performance, let alone their existence. Most of these small businesses are family businesses that employ unpaid family workers. Some are probably in these small businesses because they cannot find a better job elsewhere because they are unskilled and must become 'entrepreneurs' simply to survive in a hand-to-mouth condition. As Aburizal Bakrie stated:

> The structure of our (Indonesia's) businesses is often called 'hollow-middle', with the lower level being colored by a majority of small and weak entrepreneurs[251] whom often in difficult conditions (Wangsa 2004: 74).

A study of micro and small-scale enterprises in Java by Singh et. al. (2004) reveals the following characteristics of small businesses in Java: the average age is 41, of which 90% of them are Javanese (natives), majority has only primary education, and with low technical skills obtained from formal education. This would most probably

[251]These small entrepreneurs tend to be associated with the people's economy ('ekonomi rakyat' or 'ekonomi kerakyatan').

highlight the limited capabilities of these small businesses to grow and to become the engine of growth.

Table 7-6 Characteristics of Small Entrepreneurs in Java

Characteristics	*N=200*
Average age	*41.2*
Ethnicity	
1. Chinese	*10.5*
2. Javanese	*89.5*
Education	
1. No school	*6.5*
2. Primary school	*57.5*
3. Junior high school	*16*
4. Senior high school	*13*
5. College	*3*
6. University	*2.5*
Operator had any training in the Business being operated (percent)	
1. Yes	*52.5*
2. No	*47.5*
Technical Skill	
1. No training	*6.5*
2. From parents/family	*33*
3. Formal education	*3*
4. Self taught	*38.5*
5. Informal workshop/apprentice	*40.5*
6. Other	-

Source: Singh, et. al. (2004)

7.5 Concluding Remarks

The emergence of an entrepreneurial class, which is considered crucial for economic growth, is discussed in this chapter. The traditional 'Indonesian Man' most probably lacks the entrepreneurship-capacity needed to achieve growth, due to its previous colonial experience and subsistence culture.

From below, the entrepreneurial class is more likely to come out from a vibrant growing working class, which, as they accumulate enough capital, skills and networking, would further set up their own businesses and become entrepreneurs.

From above, the elite capitalist class could also become entrepreneurs. From previously simple traders or even rent-seekers, these capitalists could become entrepreneurs as they become exposed to the economic globalization and global competition. The political elites or their descendants could also become entrepreneurs. As the age of materialism has entered Indonesian culture, material and capital wealth have become one of the important symbols for status and power.

After independence and the removal of the colonial powers it was assumed that people would behave differently, from a static to a more dynamic society. However, culture naturally would only change gradually. Education is one of the tools that could create an 'enabling' environment for a dynamic and vibrant society.

It seems that schooling could be seen as a miniature of the state itself. As the authoritarian regime of Soeharto took place, the school was simply used as a tool to indoctrinate the students with the ideology of the New Order regime. Not much attention, if any at all, was given to the development of the new 'Indonesian Man' culture that supposedly accompanies the 'physical' modernization process of growth. The working class was also suppressed; denied of it rights to organize and aspire its ideas. Developing entrepreneurial class from below then was hindered by the lack of support from educational institutions as well as the suppressed working class.

From above, though businesses have grown rapidly with the economy, the type of entrepreneurs emerging seems to be less than ideal. The Oei Tiong Ham Concern

nationalization in the 1960s seems to have left a deep trauma for the Sino-Indonesian entrepreneurs. As such, these Chinese entrepreneurs would try to maintain a close relationship with the State so as to safeguard their businesses. Some Chinese entrepreneurs like William Soeryadjaja who founded Astra did manage to show significant entrepreneurship, but even then the success of Astra still requires an intervention from the bureaucrats of the state itself (Butler 2000). Others like Liem Sioe Liong and Bob Hasan had too close a relationship with Soeharto such that the quality of their entrepreneurship is controversial.

As for the native entrepreneurs, hindered by the lack of skills of capital network, their progress is slow. The new native entrepreneurs, unfortunately, also come from the political-elite circle, such that it is doubtful whether they have the necessary entrepreneurial skills to start businesses or they simple take the advantage of their political connections.

Small businesses actually had shown some promise to develop further to become medium and big entrepreneurs. However, the lack of channels that these entrepreneurs have to capital and their limited skills are still a problem. The political supports for these small businesses are also lacking, as the '*ekonomi kerakyatan*' paradigm was usually sidelined when compared with the liberal and nationalist economic policy. Though the government had partially tried to support the funding of these small businesses, most of the funding seems to be mischanneled and being tapped only by the medium enterprises instead.

The liberal technocrats did manage to balance the 'nationalist' view[252], and, due to its close relations with Soeharto, provided some policy guidance that attempted to set the economy to the right and efficient path. However, their role was limited – in accordance with Soeharto's approval. As such, the outcome was not a pure liberal economic policy, but instead 'liberal economic policy a la Soeharto'; where Soeharto still made significant and often damaging intervention to help his cronies. This would in turn, also create 'erzats'-capitalists and rent-seeking entrepreneurs instead of the 'ideal' Schumpeterian entrepreneurs. Later on, both the liberal-capitalist nationalist economic policy making tend to support the 'elite' entrepreneurs while marginalizing the role of small indigenous entrepreneurs.

This chapter represents the triangular relationship, to borrow Dhakidae's (2003: xxxi) terminology, between 'capital', 'power' and 'culture'. Unfortunately, in the end 'power' (as it was mostly shown during Soeharto's administration) determines the effective role of the other two.

[252] For a study of the 'battle of ideas' between liberal and nationalist paradigm, refer to Mallarangeng (2004).

Chapter 8
Conclusions and Policy Implications

8.1 Conclusions

Based on the analysis at the macro level, physical capital represents the main source of growth in Indonesia. It must be emphasized that the origins of physical capital for production mainly originates from two main sources: oil revenues and Foreign Direct Investment.

Looking back at the growth narratives of Indonesia, investment (and thus capital) inevitably becomes the central attention for growth, which is in line with the thinking behind traditional mainstream economics. Indonesia, after independence, was confronted by the low income of its people. This resulted in low aggregate savings, and thus low investments, finally leading to the low level of capital stock. It was only natural that capital acted as the constraint to growth as labor was relatively abundant.

Following historians like Rosenberg and Birdzell (1985), the main constraint on development was not technology, but more the scarcity of capital. Doepke and Zilibotti (2004: 3) wrote:

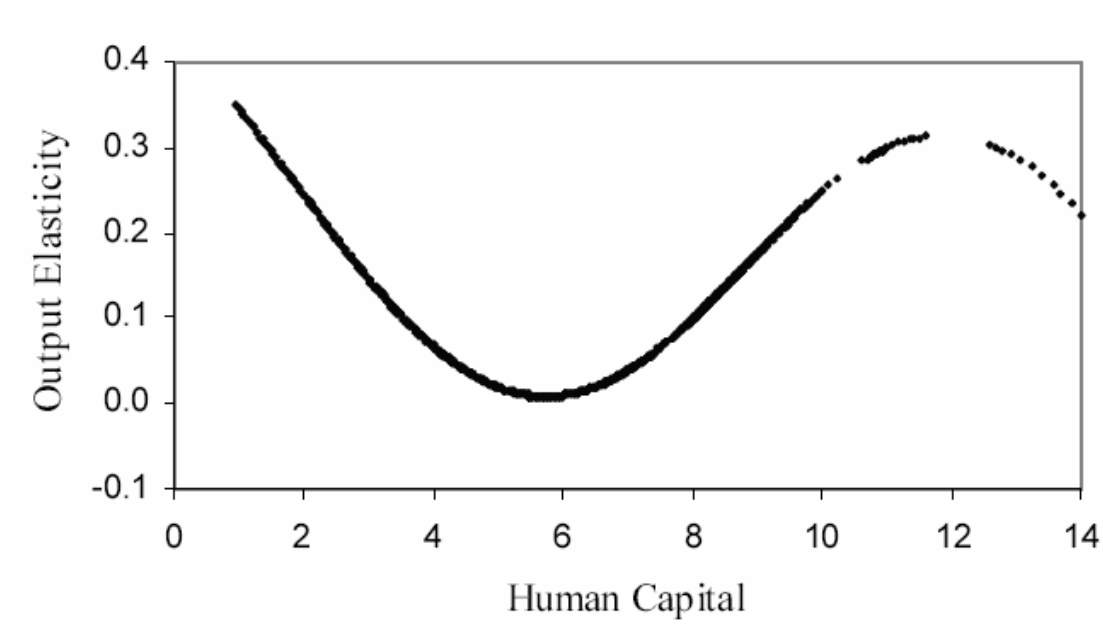
> many technologies that became widespread during the Industrial Revolution had actually been available long before. The steam engine, for instance, had been invented in the early part of the eighteenth century, but its diffusion remained very limited until the following century. …in the pre-industrial world, financial rather than technological underdevelopment was the bottleneck which prevented sustained increases in the standard of living.

The macro regression results from my research confirm the importance or the condition of capital scarcity described above. The negative human capital coefficient on the Solow growth model most probably points to the condition of labor surplus in the Indonesian economy. It also probably shows the failure of the economy to reach a technological level that is suitable considering the condition of their labor force.

The education standards of the population, viewed as labor quality, were rarely seen as the constraint of growth despite its low quality. Indeed, the poorly educated masses provided cheap labor (should be equated with 'unskilled labor') which was often promoted as a 'comparative advantage' instead of weakness.

Mamuneas et. al. (2002: 19) mentions that elasticity of human capital with respect to output "varies substantially across countries and is, in general, positive for the high income economies though for low income economies it tends to be low and in some cases zero"; as shown in the figure below.

Figure 8-1 Human Capital Output Elasticity



Source: Mamuneas et. al. (2002).

As such, advanced economies might have a positive value on human capital coefficient because their level of technology (and their level of economy) is sufficient to absorb them. Moreover, this condition would later on enable them to continue upgrading their level of technology leading to sustainable level of growth.

We could argue that the advanced economy has reached a condition of turning point (most probably occurring at a level where the average educational attainment of the labor force has reached primary education (6 years of schooling, as shown in figure 8-1) whereby labor has ceased to become a burden to growth and transform itself to become the engine of growth.

Another possible way of using the Solow model to gauge the contribution of Human Capital is by using a growth accounting method. The result of applying the growth accounting method to Indonesian data is given in the following table.

Table 8-1 Indonesian Growth Accounting

	1961-2000	1961-1970	1971-1980	1981-1990	1990-1997
GDP Growth	5.5	4	7.6	6.2	7.4
Capital Stock	1.2	-1.9	2	2.7	2.9
Labor Force	1.8	1.4	1.9	2	1.9
Schooling, years	0.6	0.9	0.6	0.2	0.6
TFP	1.9	3.6	3.2	1.2	2

Source: Hofman, Rodrick-Jones, and Thee (2004).

Though the contribution of human capital on growth is not negative, it still remains the smallest compared to the contribution of capital and labor. One important thing to note is the corelation between a high TFP with high human capital contribution. This might suggests that human capital might contribute to higher TFP through higher technological capability.

At the household level, we attempt to measure the return to schooling using the Sakernas survey. Return to schooling was sufficiently high in Indonesia, with urban figures relatively higher than rural ones. The manufacturing sector provides labor with higher return to schooling, which probably explains the higher return to schooling in urban areas where factories are located. Higher wages seem to require higher skills, as shown by the higher mean years of education in urban areas. The inequality of education returns also shows signs of economic duality mentioned by Boeke.

The inequality of education return in urban and rural areas seems to have lessened from 1973 to 1997. The inequality of education returns might be needed at the beginning phase of development to facilitate the migration of labor from rural to urban areas to support industrialization. The rural to urban migration in Indonesia is indeed high, even compared with its neighbours as it shown in the following table.

Table 8-2 Average rates of rural-urban migration, percent per year, decade averages

Country	1960s	1970s	1980s	1990s	Period averages
Thailand	0.61	0.89	0.55	3.09	1.32
Philippines	1.32	0.35	1.39	1.45	1.11
Indonesia		1.72	0.39	2.27	1.44
Asia	1.07	1.4	1.8	n.a.	

Source: Mundlak, Larson and Butzer (2004)

However, Indonesia is still plagued by the high proportion of labor that is unpaid. This means that a large proportion of society is excluded from the 'formal' labor market. This condition seems to have remained unchanged from 1976 to 1997. This could point to the fact that although some parts of the Indonesian economy have been 'modernized', a large part of it, especially the rural sector, remains relatively untouched – and probably still exists at the subsistence level.

The low share of education expenditures in the household budget provides a significant barrier in the attempts to improve the quality of education received by children. But as education expenditure increases as income brackets go up, it shows that society may view education as a part of investment if the household budget allows. Even then, the increments remains relatively small, showing that some sort of structural unemployment where the growth of the economy fails to absorb the growing number of labor force. (this last sentence doesn't make sense as the paragraph is talking about household expenditure)

On the ideological level, the emergence of an entrepreneurial class is considered crucial for economic growth. The traditional 'Indonesian Man', as I have argued previously, is most likely to be lacking in the entrepreneurship capacity needed to

achieve growth, due to Indonesia's previous colonial experience and subsistence culture.

From below, the entrepreneurial class is more likely to arise from a vibrant growing working class who, as they accumulate enough capital, skills and networking, would be likely to set up their own business and become entrepreneurs.

From above, members of the elite capitalist class could also become entrepreneurs. From previously simple traders or even rent-seekers, these capitalists could become entrepreneurs as they become exposed to economic globalization and global competition. The political elites or their descendants could also become entrepreneurs. As the age of materialism has entered Indonesian culture, material and capital wealth have become important symbols for status and power.

During the authoritarian regime of Soeharto, the school was simply used as a tool to indoctrinate the students with the ideology of New Order regime. Not much attention, if any at all, was given to the development of the new 'Indonesian Man' culture that supposedly accompanies the 'physical' modernization process of growth. The working class was also suppressed; denied of it rights to organize and aspire its ideas. The developement of an entrepreneurial class from below then was hindered by the lack of support from educational institutions as well as the suppressed working class. From above, though businesses had grown rapidly with economic growth, the type of entrepreneurs emerging seems to be less than ideal; creating more rent-seekers or 'traders' rather than entrepreneurs.

To conclude, I reiterate the following points:

1. Economic growth basically involves a ‘transformation’, and not merely ‘change’; it is important so that the resulting growth could be considered sustainable.
2. This transformation must occur broadly, both at the society or aggregate level and also at the individual or ideological level.
3. At the aggregate level, the level of technology is the main determinant of growth. At the beginning of development, the contribution of human capital is usually negative. The expansion of education in Indonesia is made possible by the oil revenues.
4. In Indonesia most of technological capabilities are occurring due to FDI; as such the technological capabilities are not embedded in the society.
5. At the individual level, after a certain level of human capital level, education would make sure that the level of technology is continuously updated and maintained to guarantee a sustainable level of growth.
6. At the ideological level, entrepreneurs are needed as a catalyst to apply the technological capability into the most efficient sectors of the economy; again to make sure that the growth is sustainable.
7. Entrepreneurs would mostly emerge from a vibrant and modern society, in which education and schooling holds a pivotal role. However, as education system in Indonesia is being dominated by the state and being used by the state to continue its domination, education

has failed to adequately modernized the Indonesian society and to create the new identity of the Indonesian man.

8.2 Policy Implications

Based on the three levels of analysis, it is clear that economic growth – whether it should be sustainable, should not be and cannot be simply viewed only in terms of physical or material phenomenon. Structural changes occur both at the physical and at the deeper ideological level. Economic growth brings about changes in both the society and the individual level as well.

In the policy level, the capitalist development approach adopted by the GOI, though able to generate growth, did not add much to promoting entrepreneurial capacity of 'Indonesian Man', since it only focuses on big businesses and capitals. The notion of '*ekonomi kerakyatan*', that supposedly help to cultivate most small businesses, remains marginalized as the result.

On the other hand, despite the high political emphasis on education, many countries in Asia do not seriously considered education issues in their development policy. Education is simply seen as 'a social policy', a policy that eats up the government budget without providing revenues in return. In short, education policy is seen as a non-generating revenue item.

Maybe this explains the lack of focus on education in the development policy. Because education policy, like schools construction and hiring teachers, is simply seen

as budget expenditure items that does not generate revenue for the state budget. Education is simple seen as 'consumption' and not 'investment'.

Where as capital oriented policy, like foreign direct investment (FDI), extraction of natural resource, international trade, all brings in investment money that could be taxed by the state, thus generating budget income. It is for the sake for its own budget sake does the state pursuing a capitalist-centered approach for development and seems to shy away from a people-centered approach such as human capital based of development.

Recent development in Indonesia, however, has shown significant improvement. In the context of decentralization started out in 1998, the Government of Indonesia (GOI) has shown a deep interest on promoting education as one of the goals of development. The Human Development Index (HDI), despite its weaknesses, has been included as one of the criteria/indicator in the Government Regulation in terms of dividing the central budget revenues towards its more than 300 districts.

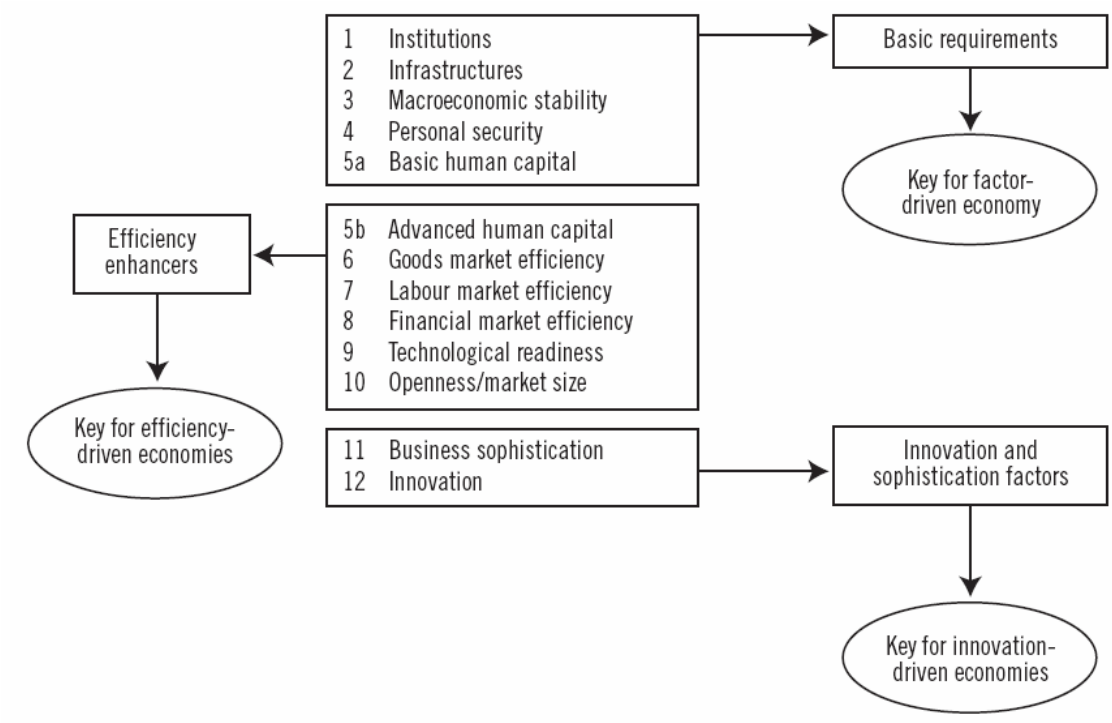
Education or schooling, while providing some support for 'physical' growth in the framework of human capital in the household and less at the national level, could have done better in creating high quality economic growth if it is also directed towards building an 'Indonesian Man' that is self-sufficient, independent and entrepreneurial. Only then, the economic growth could be said to be 'self-driven', and not to follow the current pattern of dependence, either on FDI, international trade, or on oil. This emphasis on domestic capability has also been stressed by Rodrik (2001: 45):

> Economic development ultimately derives from a home-grown strategy, and not from the world market. Policy makers in developing countries should avoid fads, put globalization in perspective, and focus on domestic institution building. They should have more confidence in themselves and in domestic

institution building, and place less faith on the global economy and blueprints emanating therefrom.

In order to successfully compete in an environment of globalization, Snowdon (2006) specifies twelve pillars that are required to survive for different stages of economic maturity: Factor-driven economy, efficiency-driven and innovation-driven). Human capital (basic and advanced human capital) enters at the levels of both the factor-driven and efficiency-driven economy. I would argue that human capital should also be considered in the innovation-driven economy as well since it is people and entrepreneurs who create innovation.

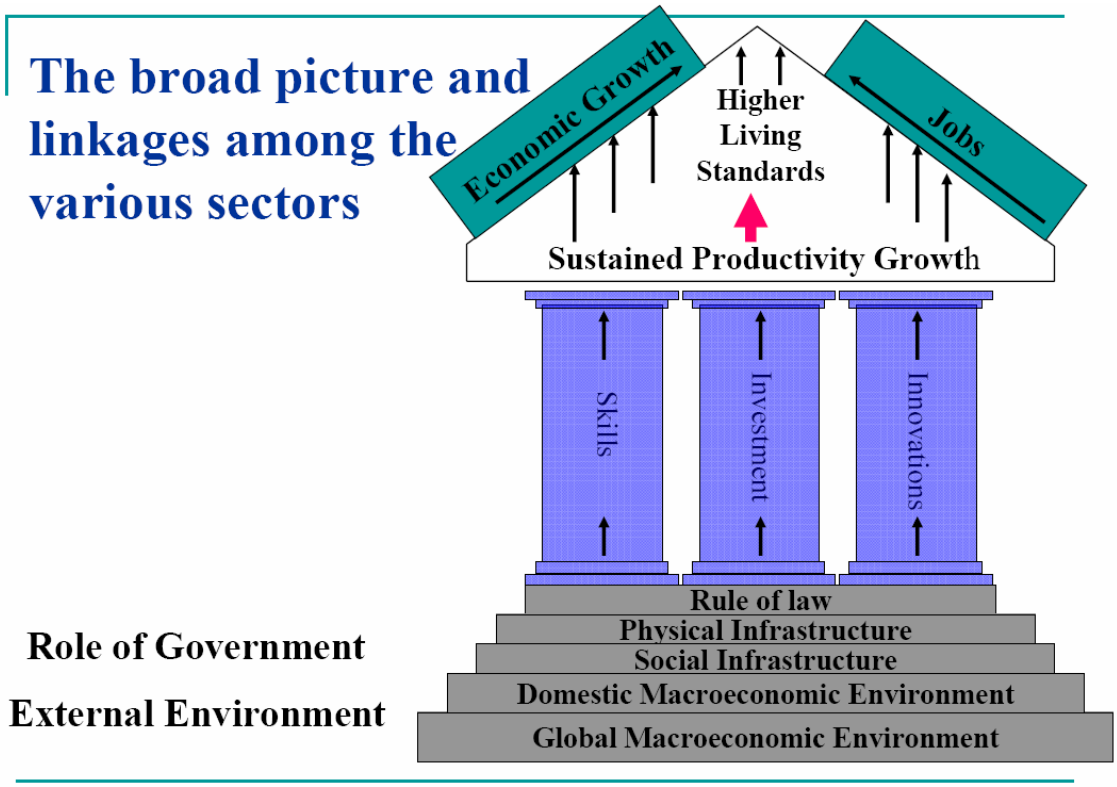
Figure 8-2 The Twelve 'Pillars' of the Global Competitiveness Index



Source: Snowdon (2006), adapted from Sala-i-Martin and Artadi (2004).

Faal (2006) also specifies skills/innovation as one of the three pillars to support a sustained productivity growth leading to higher living standard in advocating the growth policy for Papua New Guinea.

Figure 8-3 Economic Growth and Human Capital is Important in Sustaining Productivity Growth



Source: Faal (2006).

The fact that our result of return to schooling shows more favorable and convincing results than our macroeconomic contribution of human capital shows that there is a need to address institutional issues. As Hall (2002: 27) noted that "education may pay off to the individual but not to the nation". According to Hall (2002: 31) the three components shown in table 8-4 are "quite highly correlated—that is, countries at the top in education tend to be at the top in plant and equipment and in efficiency".

Table 8-3 Data on Output per Worker and Its Three Determinants, for Selected Countries

Country	*Output per worker*	*Contribution from*		
		Education	*Plant and equipment*	*Efficiency*
United States	1.000	1.000	1.000	1.000
Canada	0.941	0.908	1.002	1.034
Italy	0.834	0.650	1.063	1.207
West Germany	0.818	0.802	1.118	0.912
France	0.818	0.666	1.091	1.126
United Kingdom	0.727	0.808	0.891	1.011
Hong Kong	0.608	0.735	0.741	1.115
Singapore	0.606	0.545	1.031	1.078
Japan	0.587	0.797	1.119	0.658
Mexico	0.433	0.538	0.868	0.926
Argentina	0.418	0.676	0.953	0.648
U.S.S.R.	0.417	0.724	1.231	0.468
India	0.086	0.454	0.709	0.267
China	0.060	0.632	0.891	0.106
Kenya	0.056	0.457	0.747	0.165
Zaire	0.033	0.408	0.499	0.160

Hall further stresses the importance of 'social infrastructure' as he writes:

> Some countries have institutions that promote accumulation and efficiency. Where the social infrastructure is strong, businesses and workers concentrate on productive activities. They do not fear the loss of the fruits of their efforts to parasites. More than anything else, strong infrastructure means an effective rule of law.

Indonesia needs to tap to its human resources potential to survive the upcoming decades. In identifying 'Global Growth Centres 2020', Deutsche Bank Research's (2005) empirical investigation supports the view that human capital is the most important factor of production in today's economies; where increases in human capital are crucial to achieving increases in GDP. Evers (2001) sees knowledge as the crucial productivity factors that would enable the transition from light industrial and commercial agricultural society to a condition of knowledge economy and society. Evers and Gerske (2004) also maintain that knowledge makes the difference between poverty and wealth, by using Korea and Ghana as examples. 'Knowledge Economy'

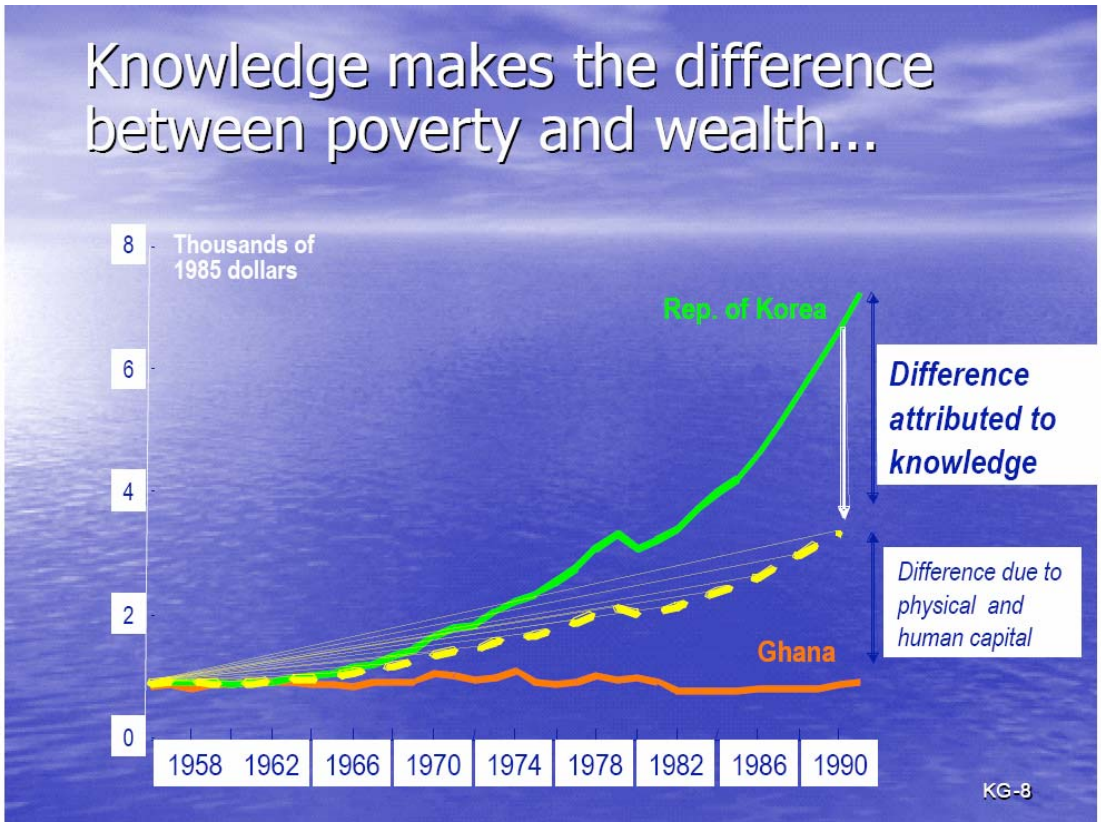
then should be viewed as the ultimate goal of developing human capital; as such developing human capital should be viewed as a means of achieving a knowledge society and not an end by itself.

Table 8-4 Transition Hypothesis of Social and Economic Development

	PRODUCTIVITY FACTOR	**TRANSITION FROM**	**TO**	STAGES IN INDONESIA'S HISTORY
I	early long-distance trading networks	Subsistence agriculture	trading empire	Makassar
II	labour intensive estate agriculture and industrial mining	Peasant society	colonial raw material producing economy and society	Netherlands Indies 19thcentury
III	Industrial production and organisation	colonial raw material producing economy and society	light industrial and commercial agricultural society	Indonesia after 1980
IV	knowledge	light industrial and commercial agricultural society	knowledge economy and society	Indonesia after 2020 ?

Source: Evers 2001, slightly modified.

Figure 8-4 Knowledge and Development



Source: World Development Report 1998/99 in Evers 2004.

For education policy, more society and local participation in developing education curriculum is desirable. The school represents and portrays the kind of society that would developed in the future. The school should not dictate nor instilled specific values on their curriculum. Government intervention should be kept at the minimum level, though budget supports is still highly desirable. Let the society decide and determined what is important and necessary for their children to study in facing the future. As Polanyi 1922 in Mendell (p.10) stated that:

> working class education was about more than access… A working class education was essential for capacity building, for mobilization, for social transformation.

Social transformation in Indonesia is and was never fully completed thoroughly in an independent manner. Interventions by the state, by globalization, by the elites, have made the process even less natural and leding more to a fabricated society. The school needs to hold a central role at this point, by creating a conducive and free environment for students in developing new ideas freely.

I would like to end this dissertation by a quote from Stiglitz (1998: 7):

> "…of these development strategies saw development as a *technical* problem requiring technical solutions— better planning algorithms, better trade and pricing policies, better macroeconomic frameworks. They did not reach deep down into society, nor did they believe such a participatory approach was necessary. The laws of economics were universal: demand and supply curves and the fundamental theorems of welfare economies applied as well to Africa and Asia as they did to Europe and North America. These scientific laws were not bound by time or space".

Any policy taken by the government should follow a participatory approach, as each development strategy is unique, highly dependant on society's norms, values and ideologies. Public policy should limit its role, to serve as a 'catalyst' and not to be overly ambitious; as the ultimate goal is to instill a transformation from within society itself and not from without.

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Appendix A The Indonesia Family Life Survey (IFLS): Brief Description

The Indonesia Family Life Survey is a continuing longitudinal socioeconomic and health survey. It is addressed to a sample representing about 83% of the Indonesian population living in 13 of the nation's 26 provinces. The survey collects data on individual respondents, their families, their households, the communities in which they live, and the health and education facilities they use. The first wave (IFLS1) was administered in 1993 to individuals living in 7,224 households. IFLS2 sought to reinterview the same respondents four years later. A follow-up survey (IFLS2+) was conducted in 1998 with 25% of the sample to measure the immediate impact of the economic and political crisis in Indonesia. The next wave, IFLS3, is scheduled to be fielded in 2000.

The Indonesia Family Life Survey is designed to provide data for studying these behaviors and outcomes. The survey contains a wealth of information collected at the individual and household levels, including multiple indicators of economic well-being (consumption, income, and assets); education, migration, and labor market outcomes; marriage, fertility, and contraceptive use; health status, use of health care, and health insurance; relationships among co-resident and non-coresident family members;

processes underlying household decision-making; transfers among family members and inter-generational mobility; and participation in community activities. In addition to individual- and household-level information, the IFLS provides detailed information from the communities in which IFLS households are located and from the facilities that serve residents of those communities. These data cover aspects of the physical and social environment, infrastructure, employment opportunities, food prices, access to health and educational facilities, and the quality and prices of services available at those facilities.

Source: Frankenberg, E. and D. Thomas. "The Indonesia Family Life Survey (IFLS): Study Design and Results from Waves 1 and 2. DRU-2238/1-NIA/NICHD.