CHAPTER VIII
FINANCIAL DEVELOPMENT
--- From Government Intervention to Liberalization ---

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I. INTRODUCTION

The Indonesian monetary system and policies have undergone at least two noticeable changes in the past two decades. The first major change took place in the late 1960s in conjunction with the so-called 'New Order' of the President Soeharto. The second drastic revolution appeared in the early 1980s. This was perhaps regarded as a necessary step to mobilize underutilized resources and to expand financial roles when the Indonesian real sector fell into a downturn. To be sure, these changes seem to have worked as evolving factors at each developing stage, but full-blown monetary development has yet to be realized.

After having experienced devastating inflation throughout the 1960s, the Indonesian monetary authorities primarily sought two monetary goals, one immediate and the other longer term. The first and relatively more important objective was to reestablish monetary stability. It is accurate to stress that this goal was very urgently needed to attain political and social stability. Some records indicate, an averrage of almost two hundred percent annual inflation prevailed in the 1960s prior to the official establishment of the current Soeharto regime.[1] This high inflation was considered partly a result of a failure or lack of monetary policy. The average growth rate of money supply was increasing more than one hundred percent per annum during that period. The monetary authorities attempted to reduce the money growth to a more orderly magnitude.

An orderly money market and price stability were in fact parallel to the stability of the rupiah exchange rate. Since the Soeharto government adopted a policy of no foreign exchange control, the overvalued rupiah ventually created an environment of a massive capital outflow. Therefore, whenever disequilibrium of exchange rates was perceived, it triggered a disorderly money market in Indonesia. It was known that there could be no practical and effective way to enforce foreign exchange control in an archipelago nation like Indonesia. Thus, an economically realistic exchange rate became policy for monetary policy consideration, too. Essentially, a stable money market had to be attained first and foremost. In October 1968, the rupiah exchange rate was realigned to 326 rupiah per one US dollar. This new fixed exchange rate was expected to be sufficient to offset disequilibrium and therefore it was widely hoped that this rate could be maintained for a long period since the new exchange rate was approximately a hundred percent below the average level of 1967.

The second goal was to diffuse the 'monetary' transactions in a wider range of the economy. The so-called monetization process is known to possess various positive implications for economic development. As Patrick(1966) and Gurley and Shaw(1967) stated theoretically, financial development serves to promote more efficient resource allocation and investment, which thus leads effectively to the accumulation of the real capital stock. The Indonesian financial situation was underdeveloped in this regard. This was partly due to less than active policy, and because of geographical diversity. To attain this goal, the monetary authorities had to deal with many immediate, but difficult tasks: for example, restructuring the monetary system, modernizing every financial institution and educating all classes of people to materialize benefits generated from the monetized economy.[2]

As an economy advances, it is likely that it experiences more rapid growth in financial assets than in national output. There are three major reasons for secularly rising financial ratios as pointed out by [Gurley and Shaw: 1967]. First, division of labor in production that involves exchange of factor services and outputs implies lending and borrowing. The diseconomies of finance-in-kind induce monetization. Second, finance is associated with a division of labor between saving and investment. During the development process, the division of labor between saving and investment becomes more intricate, and this institutional evolution usually

precipitates more rapid accumulation of financial assets than of real wealth. Third, growth in both quantity and variety of financial assets can be further promoted.

Nevertheless, it would be wise to evaluate the monetization process cautiously if looking at only a single ratio of a monetized component to some aggregate economic indicator. That monetization proces is essentially a dynamic historical process and is not a conscious objective of policy in most developing countries, as stated by Chandavarkar[1977]. Such a process must involve a variety of changes in the sectoral and regional levels over time in a diversified economy. In the past fifteen years, for example, it is widely reported that the proportion of transactions-in-kind in Indonesia has diminished considerably, reduced even on the remote islands. A single monetization ratio probably does not reflect such changes in those regions in an appropriate manner. However, data limitations generally prevent proper examination of the monetizing process in a developing country in detail. It should be noted that the following section serves to illustrate only one indication of the evolution in the Indonesian monetary sector.

Table 1 Selected Financial Indicators of Monetization in Indonesia

	Ratio of M_1 to GDP (%)	Ratio of M'_2 to GDP (%) (1)	Ratio of Total Deposits to GDP (%) (2)
1969	6.7	8.8	4.2
1970	7.7	10.3	5.1
1971	8.7	12.0	7.2
1972	10.4	14.4	7.7
1973	9.9	14.9	8.4
1974	8.8	12.3	7.2
1975	9.9	15.6	10.4
1976	10.4	17.0	11.8
1977	10.5	16.4	10.9
1978	10.9	16.7	11.0
1979	10.6	16.2	11.1
1980	10.1	16.8	12.0
1981	12.0	17.8	12.9
1982	11.9	18.5	13.5
1983	10.6	20.4	15.7
1984(3)	10.0	20.9	16.5

Notes: (1) M'_2 is defined as the sum of M_1 plus quasi-money, including foreign currency deposits.
(2) Total deposits include demand, time and saving deposits plus foreign currency deposits.
(3) The GDP figure in 1984 is provisional, which is provided by BAPPENAS.

Source: Bank Indonesia, Indonesian Ficancial Statistics, various issues.

A time series of monetization indicators in Indonesia can be seen in Table 1. The most significant increase relative to the national output is seen in the 1980s. In fact, between 1969 and 1984, the total deposits at deposit banks grew almost one hundred times larger. Such an enormous increase in the demand for various deposits seem to be the result not only of policy encouragement, but also of the evolving process of monetization during this time period. The former contribution to the monetization process will be discussed in the later part of this

section. The table suggests that the monetary sector in Indonesia gained momentum, even though its current stage might be still classified premature. Monetizing development in the early 1970s must have had a very positive effect on the Indonesian economic development.

In the subsequent sections, we will examine the policy environment for many monetary actions and their effects on the economy. Section II describes the institutional framework. In Section III, the old monetary policy under the Soeharto era, which was maintained until the early 1980s, is examined. This policy is compared with a series of new financial policies witnessed since 1983 in Section IV. Final comments are provided in the last section.

II. THE INDONESIAN FINANCIAL STRUCTURE

1. Rehabilitation and Stabilization Period: Prelude to the first REPELITA

Clearly, the earlier Indonesian financial system was under the strong influence of Dutch control. The independent Indonesian monetary system could not be realized until the nationalization of De Javasch Bank in 1951. The old bank, which was established by the Dutch in 1827, was reinstitutionalized as the fundamental body of the Bank Indonesia. At the same time, more concrete actions were needed to reinvigorate this bank to fulfill the role of central bank in Indonesia. Thus, the government introduced a series of the key laws and guidelines in subsequent years. The Bank Indonesia emerged as the single central bank by statute in July 1953. It was immediately decided that the fundamental monetary policy would be initiated and supervised by the Monetary Board. A limited number of economic ministers and the governor of the central bank were appointed to serve as board members.

Looking back on the 1950s and 1960s from a modern banking perspective, the major monetary policy instrument appears to have been the reserve requirement of 30 percent of all bank deposits. This policy was maintained until 1977 without any revision. Since there were essentially no other visibly significant financial markets in Indonesia, commercial banking remained the only formal monetary system. These banks were not sufficiently developed in many aspects. This situation caused the central bank constantly to face possible liquidity problems which could have easily triggered a serious monetary crisis. Such a situation might be easily exacerbated by the shallow banking structure. Thus, the seemingly high ratio of required reserve position was strictly enforced, though it was not in fact the central policy instrument for the Bank Indonesia.

Although the Bank Indonesia was in charge of the central banking role such as supervising banking, its relatively more important roles were found in other areas. The Bank Indonesia provided a large proportion of credits directly to the final demanders. This implies that this bank behaved in the money market as if it was a single largest and active commercial bank. Furthermore, Bank Indonesia lent increasingly excessive money to the central government. In other words, this central bank was recognized as a vital source of the central government budgets. This "printing money policy" eventually led the money market to a textbook case of hyperinflation in the early 1960s.[3)]

Substantial modernization of the banking system is said to have started in 1967 under the current political regime. In that year, Basic Banking Law No. 14 was introduced and the formal banking structure was rearranged into three types of banks other than the Bank Indonesia: commercial banks, savings banks and development banks. At the same time, the Central Bank Act of 1967 and 1968 were newly enforced and its role was more strictly and clearly defined than the earlier body of the Bank Indonesia Act. For example, the Bank Indonesia previously could serve as a commercial bank, as already pointed out. Hereafter, its traditional commercial banking functions were transferred to other state-owned commercial banks.

While structural rehabilitation was attempted, a drastic organizational change in the monetary policy formation was programmed. All economic policies, of which monetary policy was a subset, came to be managed and decided by the new Economic Stabilization Council, in which

the President serves as chairman. The role of the Monetary Board under the new law was thus redefined to assist the higher council and to implement the government's monetary policy in a coordinated manner. In this sense, the degree of autonomy of the Bank Indonesia's was rather restricted. However, the Bank Indonesia was released from the burden of the fiscal deficit financing. It was recognized that the major cause of inflation in the early 1960s was the government budget deficits. Fiscal discipline was an urgent task for the new regime. Concurrently, a balanced budget policy and quarterly budget programmes in each fiscal year were introduced. This was the most important achievement under the new political regime effecting economic stabilization in the later 1960s.

Throughout this stabilization and rehabilitation period, the banking system was restructured on the basis of the classified business area of each state-owned commercial bank and other banks. Still, the principle policy instrument was inherited from the previous system: namely, administered interest rates policy with particular attention to loan rates. This policy, widely-known as credit rationing, was actively used to allocate scarce credits to preferential projects or priority sectors for the governmental objectives.[4] In the subsequent years, the government repeatedly had to adjust interest and rediscount rates to attain its goals. Similar tight control was introduced for the foreign debt cases[5] in accordance with the establishment of the Inter-Governmental Group on Indonesia(IGGI). After having recognized the almost insolvent position externally in the middle of the 1960s, the government decided to strengthen its control and surveillance of foreign borrowing and its underlying terms and conditions. Implied in this action is a drastic change in the government stance toward foreign aid. The government decided to increase the share of foreign credits for financing development projects, rather than for commodities imports such as rice and other necessities.

The rupiah exchange rate was immediately realigned. The government then attempted to simplify the foreign exchange system from the previous multiple exchange rate mechanism (Thasan 1966).

Throughout this gestation period, the Indonesian monetary system, mostly the banking sector, systematically reorganized. In the following subsection, the structure of the contemporary Indonesian Financial system will be explained briefly.

2. The Structure of the Present Indonesian Banking System

The Indonesian financial system presently consists of the Central Bank, deposit money banks and other non- bank financial institutions. The last group includes investment finance, development finance, instrument trust, housing finance, insurance and leasing companies.

The activities of Bank Indonesia, commercial banks, and other banks are regulated by corresponding laws. These include the Act No. 14 of 1967 on banking principles and the Act No. 13 of 1968 on the Central Bank. Meanwhile, non-bank financial institutions, some of which were observed as early as 1972, are currently governed and supervised under special decrees.

In the formal banking sector, commercial banks constitute the largest operating banking entities in the country. This group consists of five state-owned commercial banks, ten private national foreign exchange banks, sixty-nine private national banks and eleven foreign banks. There are also twenty-eight development banks, including one private, one national, and twenty-six regional government-owned banks. These are assigned to grant long-term investment credit. Two savings banks are engaged in facilitating the mobilization of savings.

In 1973 and 1974 three development finance companies and nine investment finance companies were established in Indonesia. Also, PT Sarana Bersama Pembiayaan Indonesia, a housing finance company, was established in June 1981. This represents Indonesian participation in the ASEAN Finance Corporation. The other financial institutions include ninety-three insurance companies, sixty-eight leasing companies and a number of other institutions of lesser significance such as pawn shops.[6]

The entire financial system in Indonesia has developed considerably and other various types of financial services have become increasingly available. There is no doubt that this trend has worked to increase the people's welfare. Nevertheless, the dominant portion of the whole

financial system is still occupied by the banking system. In this regard, it seems very important to know the basic functions of each group of banks, including the Bank Indonesia. The relative importance of these banks is roughly represented in the relative share of outstanding bank credits in Table 2.

Table 2 Relative Share of Outstanding Bank Credits by Groups of Banks[1]

(%)

	Bank Indonesia[2]	State Owned Banks	National Private Banks	Regional Development Banks	Foreign Banks	Total
1969	'35.7	56.1	7.0		1.2	100.0
1970	26.8	64.4	6.9		2.2	100.0
1971	21.0	69.3	6.7		3.2	100.0
1972	19.3	70.1	6.7		4.0	100.0
1973	15.4	72.8	6.7		5.1	100.0
1974	16.8	72.5	6.3		4.6	100.0
1975	32.5	58.3	3.9	1.0	4.4	100.0
1976	34.0	56.3	4.5	1.1	4.2	100.0
1977	31.2	57.6	5.2	1.3	4.7	100.0
1978	35.9	52.5	5.5	1.2	4.9	100.0
1979	34.5	52.2	6.5	1.4	5.5	100.0
1980	31.1	54.6	7.2	1.8	5.3	100.0
1981	26.1	57.9	8.2	2.4	5.4	100.0
1982	21.3	61.7	9.2	2.7	5.1	100.0
1983	15.4	64.0	12.3	2.7	5.6	100.0
1984	4.6	70.9	16.2	2.7	5.6	100.0

Note (1) Sum of shares in each year does not necessarily add up to 100.0 due to rounding.

(2) Bank Indonesia credits to non-financial sector and non-central government.

Source: See Table 1.

III. DEVELOPMENT STRATEGY AND MONETARY POLICY IMPLEMENTATION

1. Major Monetary Policies Held until the Reverse Oil Shock in 1983

Monetary authorities have been cautious in controlling money supply. This has been favorably assessed by many observers recently, primarily because of its success in reducing inflationary pressure. At the same time, it has been critically pointed out that Indonesian monetary policy has created some serious difficulties for balanced development within the financial framework. Immediately after the authorities recognized the drawbacks of the existing monetary conditions which were mostly induced by the basic economic policy, a new policy was introduced in 1983. An examination of the new policy will be made in the next section. In this section the former policies are discussed.

Since 1969, the monetary authorities have strengthened two instruments for monetary policy, namely, credit control through Bank Indonesia, and interest rates restrictions on loans and deposits through the state-owned and regional development banks. In order to place the money supply under the central bank control to some extent, the authorities considered it necessary to administer financial price and quantity controls. Since available credits were recognized to be quite limited, the government assumed that credit rationing was needed to promote effective economic development. Throughout the period of the first three REPELITAs, an import substitution policy was essentially pursued.[7] The credit rationing policy was consistent with such a development strategy.

Table 3 Bank Indonesia Assets (Billion Rupiahs)

	Foreign Assets	Domestic Assets					Total Assets
	Total	Total	Credits to Central Gov't	Credits to Public Enterprises	Credits to Deposit Money Banks	Others	
1969	66	351	104	78	80	89	417
1970	83	442	102	87	111	142	525
1971	85	500	134	86	144	136	585
1972	252	423	95	111	149	68	675
1973	384	517	104	148	194	71	865
1974	611	703	91	227	294	91	1314
1975	291	1994	434	905	565	90	2285
1976	655	2348	313	1239	640	156	3003
1977	1052	2485	388	1227	682	188	3537
1978	1655	3713	615	1937	846	315	5368
1979	2636	4414	736	2143	1129	406	7050
1980	4360	5445	799	2414	1722	510	9805
1981	4121	6946	1084	2583	2547	732	11067
1982	3730	9977	1293	2668	3742	2274	13707
1983	6433	10307	701	2230	4365	3011	16740
1984	9169	12449	729	720	6938	4062	21618

Source : See Table 1.

Table 4 Bank Indonesia Credit Supply (Billion Rupiahs)

	Credits to Bank				Direct Credits			Total
	Total	Agriculture & Primary Products Sector (1)	Investment Credits	Manufacturing Industry	Total	Mining	Trade	
1969	80	60	6	3	87	0	72	167
1970	113	67	26	6	97	0	62	210
1971	143	67	56	3	104	0	60	247
1972	150	63	73	2	127	0	89	278
1973	195	108	73	3	155	0	118	349
1974	294	181	82	4	235	0	193	529
1975	565	321	88	106	894	726	143	1459
1976	640	372	122	90	1212	1020	167	1852
1977	682	322	183	123	1229	1042	176	1911
1978	846	414	173	169	1935	1679	238	2781
1979	1129	419	277	278	2163	1875	248	3292
1980	1722	418	419	449	2454	1849	507	4176
1981	2548	535	829	625	2649	1644	809	5197
1982	3742	908	1226	688	2771	1402	994	6513
1983	4365	801	1685	695	2356	720	1110	6721
1984	6938	2320 (2)	2165	819	870	169	-	7808

Notes : (1) This includes items such as sugar, estate, agriculture, export, cotton and wheat, as appeared in Table 2d. in IFS.
(2) The figure includes credits for food stock.

Source : See Table 1.

The central bank was quite active in performing these policies. As an inevitable consequence, the existence and growth of state-owned banks became increasingly emphasized. As Table 3 shows, among the domestic assets of the Bank Indonesia's balance sheets, credits the

deposit money banks, mostly supplied to the state banks, became increasingly significant. That credit supply trend was quite visible in its balance sheets. In 1975, the so-called Pertamina incident became public. Since then, the central bank served to provide credits directly to public enterprises and projects in the REPELITA II years, this is as seen in Table 3. Although the pace of credit supply to those sectors declined during the REPELITA III, the size of credits still far exceeded a level of two trillion rupiahs until 1983.

The Bank Indonesia credits were largely limited to supplying intended sectors or industries, as briefly shown in Table 4. The changes in the size of those credits reflect the varying policy emphasis of the government from year to year. For example, the agricultural sector was, as widely recognized, continuously stressed as a central sector for the development. Therefore this sector steadily obtained large credits from Bank Indonesia. On the other hand, the sudden increase of credits to the manufacturing industry observed during REPELITA II and III show the government's commitment to industrial projects. Those credits, for example, were provided first to Bank Dagang Negara to finance , for example, PT Krakatau Steel.[8] Direct credits to mining sector similarly reflected the PERTAMINA borrowings.

Table 5 Movement of Liability Items of Deposit Money Banks

	Relative share in Total Liabilities					Volume of Total Liabilities (Billion Rupiahs)
	Demand Deposits (%)	Time and Savings Deposits (%)	Foreign Currency Deposits (%)	Borrowings from Bank Indonesia (%)	Other Liabilities (%)	
1969	20.9	0	20.6	25.3	33.2	277
1970	17.3	0	18.2	26.0	38.5	462
1971	23.4	0	19.1	24.1	33.4	619
1972	17.8	5.4	14.4	16.9	45.5	931
1973	16.3	5.6	17.6	14.2	46.3	1440
1974	19.4	5.8	12.7	14.8	47.4	2039
1975	24.0	24.1	5.2	22.2	24.6	2473
1976	24.8	26.8	5.2	20.4	22.8	3200
1977	26.6	27.3	3.9	17.6	24.7	3609
1978	25.1	22.1	5.5	18.1	29.2	4761
1979	27.6	18.1	10.7	17.9	25.7	6287
1980	30.0	15.9	12.6	17.6	24.0	9319
1981	31.7	16.7	9.0	21.4	21.2	12139
1982	28.2	17.0	9.6	26.5	18.7	14654
1983	21.8	24.4	11.9	22.2	19.7	19202
1984	18.9	25.0	11.5	27.6	17.1	25557

Source : See Table 1.

While the Bank Indonesia's direct credits increased visibly, the sources of credits from the deposit money banks showed significant changes. Various deposits gained shares over the period, as shown in Table 5. Since 1975, the relative share of all deposits in total liabilities exceeded fifty percent, attributing to the fast increase in time and savings deposits. In many developing economies, one of the most serious constraints on financial development is the lack or shortage of relatively longer term deposits which can be available for longer term investment. In this regard, this new development in Indonesia is on the right track.

Table 6 Time Deposits Interest Rates with State Banks
(12 Month Time Deposits)

Date	Monthly Rate (%)	Annual Rate (%)*
1969 July	3	42.6
Sept	2.5	34.5
1970 Jan	2	26.8
1972 May	1.5	19.6
1973 April	1.25	16.1
1974 April	1.50	19.6
Dec.	1.25	16.1
1977 Jan.	1	12.7
1978 Jan.	3/4	9.4
after 1983 June	Bank determined rate	

* Annual Rate, compounded rate

Table 7 Lending Interest Rates by Economic Sector

Date, from.	Investment Credits, Medium-term		Export Goods Sector(4)	Manufacturing & Service Rendering Industries	
	Category I(1)	Category IV(2)		Textile	Cement
1972 May	12	12	18	24	24
1973 April	12	12	15	18	18
1974 April	12	15	18	18	21
1974 December	12	15	15	15	18
1976 April	12	15	12	15	18
1978 January	10.5	13.5	12	13.5	13.5
1982 January	10.5	13.5	9 (5)	13.5	13.5
1983 June	12	**(3)	9 (5)	**(3)	**(3)

(1) Category I: the amount of investment credits up to Rp.25 million before January 1978. Since then this level has been raised to Rp. 75 million.
(2) Category IV: before 1978, the amount above Rp.300 million. Since then the amount decreased to between Rp.1500 million and above Rp.500 million.
(3) Rate determined by banks.
(4) There are differentials among categories in this sector. Thus the lowest rates were adopted.
(5) Applied to promising export commodities.

There are no readily available statistics on the size of different deposits by various types of commercial banks. However, it is widely recognized that the state-owned banks were the dominant recipient of those deposits. This was probably due to a simple fact that many public enterprises and national project entities were required to maintain all deposits with the state-owned banks. Interest rates on deposits at state banks were strictly controlled and monitored by the central bank. The case of twelve month time deposits is summarized in Table 6. The table shows that the central bank rarely changed the rate through the 1970s. Though the

interest rates seemed high, the actual cost of holding time deposits was likely to be expensive. This is simply because that the depositors were always exposed to the rupiah currency risk. Since the government has maintained the open capital account system, attractive interest rates should have corresponded simultaneously to a stable exchange rate.[9] Nonetheless the exchange rate and interest rate policies seemed not to have been well-integrated in the past.

Interest rates on loans to economic sectors and special activities were similarly programmed by the Bank Indonesia. Table 7 shows only a limited number of cases. Since the government was basically seeking import substitution in industrial sectors, investment credits were supplied to those sectors at relatively lower rates. In addition, relatively smaller-sized investments were favorably treated in terms of interest rates. Since 1978, all activities related to investment, export and manufacturing have been treated almost equally by credit supply institutions. The system of programmed lending rates was continuously managed until May 1983.

In comparing the tables mentioned above, it becomes obvious that the state banks were in many cases induced to have a negative interest rate margin. To mitigate such an inconsistency, the central bank provided a predetermined interest rate subsidy for each loan made by the state commercial banks. As a result, national and foreign private banks were always placed in a less competitive position. Consequently, the state-wned banks cum Bank Indonesia dominated in terms of the total outstanding credits, as seen in Table 2. Until May 1983, the state banks were allowed to have a deposits account abroad. It has been alleged that a considerable amount of the funds of the state-owned banks was invested abroad. The open capital account system is generally not compatible with credit rationing policies. Some private sector elements were induced to borrow relatively expensive funds abroad, since the domestic credits were tightly controlled by the Bank Indonesia. In this regard, the allocation of the domestic scarce resources was distorted.

These financial developments were caused by the government-led growth policy. Due to the two oil price increases, the central government received massive external funds. However, those funds had to be counted as fiscal receipts in a corresponding fiscal year due to the existing regulatory rule. The fiscal sector grew at a great pace. This policy framework itself was prone to be inflationary. Because of fiscal regulation, the government was not permitted to establish an independent account such as the so-called development funds by which the pooled money can be allocated over longer term to realize a stable development process. This possibility was officially restricted. Nevertheless, the central government quietly maintained some portion of funds with the central bank. After the second oil shock in 1979, such stock roughly accounted for one quarter to one third of the central bank's total liabilities. The volume of these deposits, however, was not inactively hoarded as it was.

This savings account had two purposes. The first one was, as mentioned already, to restrain excessive fiscal expenditures. Another purpose was for the government to retain some ability to control the money market. The overall operation of manipulating the government account is generally termed as neutralization policy. In December 1977, for example, the long maintained required reserve ratio of the total liabilities with commercial banks drastically decreased from 30 to 15 percent. The former reserve requirement seemed very burdensome to bankers by any standard. Such a drastic change might have caused an expansion of money supply through the banking system. So the monetary authorities increased deposit stock of the government by more than 50 percent. During the three years following the second oil shock, government deposits increased so as to mitigate the money supply increase. At the same time the Bank Indonesia attempted to reduce other liabilities relatively.

However, those active policies by the government made the central bank degenerate the use of common monetary instruments. The central bank was to a greater extent dependent on the government development schemes. It is generally desirable that a central bank be able to perform as an independent monetary institution even in a developing economy. This feature of a central bank is particularly important in order to preserve real currency value. In the case of Indonesia, Bank Indonesia acted frequently as a competitive lender with other commercial banks. As already shown, its share in total outstanding credits was not small each year. The question is

whether the central bank's direct participation in various projects was necessary in the foreseeable future. If the monetary system were still needed as it had been, then the Bank Indonesia would not need to act as the bank for banks. The domination of the fiscal sector and public enterprises in the Indonesian economy did not mean that such a massive number of state-owned banks would remain innovative. Some observers felt that some kind of reform was needed. However, at the same time, they also recognized that a reform of this kind of monetary system was very difficult because those banks had been acting mostly as an agent bank for public projects and enterprises. In regard to credit-rationing measures, the direct operation of the central bank in credit markets had taken away the potential of private financial institutions. The managed system of the Indonesian monetary activities had long functioned because of the injection of enormous amounts of funds earned from exporting oil and oil products into the economy.

Around the middle of 1982, the monetary authorities expressed their concern about the effectiveness of the existing monetary system to enhance future economic development. This issue was also highlighted by the sudden reduction of foreign assets with the Bank Indonesia. The central bank of course held the option of devaluating the rupiah. However, measure was difficult in 1982. Since economic growth had started declining slightly, such an inflationary measure might have hurt the standard of living of the public. Between 1981 and 1982, government deposits therefore could not be increased.

To escape from the reverse oil trap, the enduring system of fiscal and monetary policies were questioned. While the agricultural sector made considerable progress in production, the authorities started to reevaluate whether the financial system should be stimulated, particularly, the stagnant industrial sector. The primary concern was how the reorganized financial system could effectively work both to expand the manufacturing foundation and to promote exports. Weakness of the Indonesian economic structure due to the overwhelming influence of the public sector and excessive reliance on the oil sector. The industrial sector, in which the government spent a considerable amount of money in the past, was not sufficiently capable of exporting their products and could not get strong and stick without official financial support. Under such circumstances, monetary authorities must rigorously seek both to increase efficiency in the monetary system and to mobilize resources, especially in export industries. A new monetary policy was decisively introduced in June 1983.

2. Factors Affecting Changes in Monetary Supply

It is widely known that the Indonesian money supply was greatly and directly affected by external economic events and often by the structural changes in the financial system. Understanding the anatomy of the money supply, thus, is very important for distinguishing various causes and effects of money supply changes. Growth goals were often constrained by difficulties with the balance of payments and threatened by pressure on price levels. Whenever an excessive supply of money appeared to stimulate economic activity and promote further monetization, it was likely to lead an almost instant price increase and thus an expected rupiah devaluation. The ramifications of such resulted in the deterioration in the Indonesian Balance of Payments (BOP). Within such an economic environment, stabilization policy was very difficult. In many instances, monetary stimulation of economic development did not always seem compatible with price stability in Indonesia. The supply of commodities, whether those of necessity or capital goods, was severely constrained. Since the motive of money holding was essentially limited in the transaction purpose as will be examined below and the alternative financial assets were also limited,[10] the failure of the money supply seemed closely linked to the price change.

The monetary authorities seemed to be aware of this sensitive relationship. During the Soeharto era, even though the main thrust of financial policy was the direct control of credits and prices, monetary authorities were carefully monitoring the effect on the level of money supply. Of course, this was not publicly stated as a policy target. But the money supply ob-

served in the past was mostly within tolerable levels even during the period immediately after the two oil shocks. In this sense, it may be appreciated that the monetary authorities did not make light of the firm stabilization policy. In general, the governmental projects and entities are likely to demand excessive credit through the political channels. This is likely to aggravate the money supply increase. However, the Indonesian monetary authorities tended to reduce such pressure, except a few cases such as Pertamina-related projects. The overall credit line was fairly tightly controlled under the discipline.

To view this money supply management, changes in money supply are quantitatively analyzed here, as Bhatia (1971) attempted.[11] The money supply (ΔM) is roughly caused by either behavioral causal factors (ΔM_k) or non-behavioral causal factors (ΔM_L). The former is related to changes in various elements which will eventually result in a change in the money multiplier. The latter can be seen as changes in the liabilities of the central bank. Of course, the movement of the liabilities corresponds to changes in the composition of assets of the central bank. Thus sources of money supply change are clarified by examining these two factors.

By the definition, the change in the money supply is summarized as follows:

$$\Delta M = \Delta M_L + \Delta M_k$$

Assuming that the money is the sum of currency in circulation and demand deposits, that is, narrowly defined money, the money multiplier (k) is given as:

$$k = \frac{1}{c+r(1-c)}$$

where $C \equiv \frac{C}{M}$ = and the ratio currency in circulation to the money stock

and $r \equiv \frac{R}{D}$ = the ration of the reserve to demand deposits.

The ex-post money supply is expressed as a product of the central bank's monetary base and the money multiplier. Accordingly, two sources of the money supply change are derived in the following functional forms:

$$\Delta(M_L)_t \cong \Delta L_t * k_{t-1}$$

$$\Delta (M_k)_t \cong L_t * \Delta k_t$$

where L represents the central bank liabilities and t denote the period of time.

As indicated above, the change in the central bank liabilities is subdivided into changes owing to foreign asssets (ΔM_F), net credits to the government (ΔM_G) and others (ΔM_p) which result from various activities of the central bank:

$$\Delta M_L = \Delta M_F + \Delta M_G + \Delta M_p$$

Therefore, the change in money supply is ultimately represented in the equation:

$$\Delta M = \Delta M_F + \Delta M_G + \Delta M_p + \Delta M_k$$

Table 8 Currency Ratio (c), Reserve Ratio (r) and Money Multiplier (k)

	c	r	k
1969	.634	.500	1.220
70	.620	.396	1.278
71	.620	.413	1.287
72	.574	.480	1.285
73	.561	.391	1.365
74	.527	.564	1.260
75	.500	.611	1.242
76	.487	.636	1.230
77	.488	.607	1.252
78	.498	.442	1.389
79	.459	.426	1.450
80	.431	.372	1.556
81	.394	.305	1.728
82	.412	.241	1.806
83	.440	.352	1.570
84	.433	.351	1.582
85	.439	.334	1.597

Note: c = C/M, r = R/D.
C is the amount of currency in circulation and M is the narrowly defined money supply. R is reserve money and D represents demand deposits.
Source: All data are provided by Bank Indonesian and BAPPENAS.

Table 9 Money Supply Changes: Behavioral and Non-Behavioral (1)

	M_1	$HPM_t \; k_{t-1}$	$HPM \; k_t$
1969			
70	100.0	78.1	21.9
71	100.0	104.3	-4.3
72	100.0	100.6	-0.6
73	100.0	78.5	21.5
74	100.0	127.9	-27.9
75	100.0	106.0	-6.0
76	100.0	104.6	-4.6
77	100.0	91.8	8.2
78	100.0	46.7	53.3
79	100.0	84.5	15.5
80	100.0	77.7	22.3
81	100.0	57.8	42.2
82	100.0	46.9	53.1
83	100.0	353.6	-253.6
84	100.0	93.3	6.7
85	100.0	94.1	5.9

Note: The Bank Indonesia data from IFS were used to derive all figures.
Source: See Table 1.

Table 8 describes the time series of money multiplier and its components, for the case of narrow money supply. There are clear tendencies in these indicators in the past years. The money multiplier has been increasing and two components show a gradual decline. These movements generally fit the pattern for a process of financial modernization. The sudden decline in the ratio of reserves to deposits in 1978 reflects the policy change of the reserve requirement ratio reduction from 30 to 15 percent. Another decline of this ratio in 1982 was induced by the readjustment of reserves held by the deposit money banks. Although the central bank has paid interest on the excess reserve held with Bank Indonesia, deposit money banks have always been concerned about a possible devaluation of rupiah value. While observing the reduction of official international reserves since 1981, the deposit money banks tried to minimize their currency risk exposure of excess reserves. It should be noted that the exchange rate system was transformed from the fixed to the managed floating exchange system in 1978.

Money supply change, represented in Table 9, clearly reflects these events. Until the middle of the 1970s, behavioral factors had affected money supply by lowering the money multiplier, although only slightly. This feature was manifested through the close relation between the central bank and the state-owned banks. The central bank's credit rationing closely corresponded to the assets management of these deposit money banks. The drastic change observed in 1983 was simply a result of currency risk avoidance of deposit money banks made in 1982. In this year, the rupiah was devalued by 28 percent. Since then, the multiplier returned to a normal level.

Table 10 Sources of Changes in the Bank Indonesia's Total Assets (%)

	TA	AF	AG	APE	APR	ABK	AR
1969							
70	100.0	17.3	9.9	-12.4	19.8	38.3	27.2
71	100.0	-0.9	76.4	21.8	-24.6	30.0	-2.7
72	100.0	236.8	-136.8	36.8	5.9	7.4	-50.0
73	100.0	62.1	-17.7	23.5	1.3	29.4	1.3
74	100.0	80.8	-31.8	23.3	0	29.2	-1.5
75	100.0	-93.6	-55.1	169.0	1.3	69.5	7.4
76	100.0	82.6	-73.3	70.2	1.6	16.6	2.4
77	100.0	187.6	-82.8	9.0	0	17.6	-31.3
78	100.0	49.2	-24.5	57.9	1.0	13.7	2.7
79	100.0	105.1	-68.6	23.5	1.3	30.5	8.2
80	100.0	151.3	-146.0	25.8	2.3	56.4	10.2
81	100.0	-27.1	-57.0	25.2	5.8	122.4	30.8
82	100.0	-13.7	8.8	3.1	2.9	44.6	54.3
83	100.0	203.1	-164.2	-54.0	0.1	76.8	38.2
84	100.0	95.7	-71.0	-52.9	1.7	90.1	36.4
85	100.0	32.9	26.0	1.1	3.5	18.6	18.0

TA : Total assets,
AF : Foreign assets,
AG : Claims on Central Government (Net),
APE : Claims on Public Enterprises,
APR : Claims on Private Sector,
ABK : Claims on Deposit Money Banks,
AR : Others.
Sources : See Table 1.

As explained above, non-behavioral factors were mostly induced by exogenous or policy reasons. These sources can be traced by looking at the asset side of central bank balance sheets. Table 10 represents the relative contribution by sources to the Bank Indonesia total assets holding. Basically, assets composition has been predominantly affected in most years by

changes in foreign assets. One can easily identify the rapid increase of foreign assets when the rupiah was devalued in 1971, 1978 and 1983 and similarly when oil export prices were increased in 1973 and 1979. Those increases had considerable magnitude as the table shows. In corresponding years, it is important to recognize the large reduction in the net asset position to the government. This in fact was the increase of the government deposits with the central bank. The overall effect considering both these changes supply was not so large. This deliberate attempt to minimize the external shocks on money supply was the so-called neutralization policy. It was a characteristic approach made implicitly by monetary authorities. Exceptions are seen in 1975 and 1981. In the first case, the Pertamina incidence forced the central bank to increase direct credits to this public enterprise. Thus the reduction in foreign assets was more than offset. In another case, a deterioration of the balance of payments reduced the level of official international reserves. Thus, the increase in the central bank's total assets declined by almost 40 percent relative to the level of the previous year. Since credit supply to deposit money banks increased to almost the same level as before, the relative contribution to the central bank asset composition visibly differred in that year. External shock caused influences which appeared on the Indonesian balance of payments.

Increasing difficulties appeared with the balance of payments after 1982 forced the government to adopt another direct measure. By that time, the policy-makers were probably aware of economic costs of public projects which had been considered the core of high economic growth. If the traditional strategy for growth was maintained, pressure on the balance of payments would become increasingly intolerable. The government announced a new policy in 1983, in which big projects requiring too much foreign exchange would be frozen. The message of this new governmental decision implied a severe cut in direct credit supply to public enterprises. Simultaneously the monetary authorities introduced a new measure to activate market forces in the money market.

When one examines the history of money supply management in Indonesia until 1983, it can be seen how monetary authorities had to cope with external shocks. The choice of the authorities was often limited to the use of the government account with the central bank. The business with the deposit money banks was probably a less significant instrument for money supply control even though the administered banking system was unquestionable. Policy made in that way by the Bank Indonesia was direct, precise and quick to have the intended effects. The central bank may simply have been reluctant to deal with the shallow banking system and to adjust lesser significant policy instruments. Obviously, this kind of policy environment is undesirable if the monetary system is to fulfill a substantial role in the economic development and if its base is to be enlarged. In this regard, the old policy and instruments seemed to have almost reached the limits of their usefulness.

3. Demand for Money in Indonesia

While monetary assets were willingly held, it is still useful to examine the demand motives of such monetary assets.[12] As Keynesian theory postulates, money is actually demanded as a store of value in addition to its use for transaction purposes. The portfolio demand for money depends on the opportunity costs of holding money. When money is properly defined, the demand function for money can be specified with a limited number of variables. As long as the demand for money is proved to be stable, money supply can be a powerful policy instrument at least in the short run. If money is excessively supplied over the long run, as stated by the quantity theory, a price increase is the sole outcome. This occurred in Indonesia prior to 1969, as mentioned earlier.[13]

The estimated demand for money equation is summarized as follows:

$$\log\frac{M_1}{P} = \underset{(-5.61)}{-8.781} + \underset{(6.83)}{1.281}\log(y) - \underset{(2.08)}{0.188}\log(x) + \underset{(2.61)}{0.206}\log(T)$$

$R^2 = 0.984$, DW = 1.591, SSR = 0.0544, 1959-1983

and

$$\log\frac{M'}{P} = \underset{(-6.65)}{-9.264} + \underset{(8.17)}{1.363}\log(y) - \underset{(2.70)}{0.201}\log(x) + \underset{(3.87)}{0.272}\log(T)$$

$R^2 = 0.992$, DW = 2.158, SSR = 0.0431, 1969-1983

where M_1 and M' are defined as narrow and broad money, respectively. The latter includes quasi-money as defined in the Monetary Survey by the IMF. P is the consumer price index. Real income, proxied by real GDP in 1973 prices, is represented by y. T represents the time trend. This variable is necessary to describe the continuing monetization process. Since we define monetization as a process of diffusion of money holding, it is hypothesized to increase with time. Time trend is therefore expected to capture this process. The interest rate of the alternative financial assets is usually considered as an opportunity cost of holding money. Since there have not existed any significant capital markets in Indonesia, appropriate variable is not readily available. However, one should not disregard that the Indonesian government has been employing an open capital account policy. This means that the residents have not been restricted in transfering funds abroad. The major determinant of capital outflow seems to have been the rupiah currency and political risk prospects. It is different to know the degree to which the exchange rate is overvalued. For our purposes, it is assumed that the real exchange rate differential between the relative inflation rates in Indonesia (P_t) and the world (PW_t) represents approximately the degree of under- (or over-) valuation of the rupiah. To construct a simple index, the current real exchange rate is deflated by the exchange rate of 1969, so that this measure, $X_t = (RFEX_t/RFEX_{1969})/(P_t/PW_t)$, is obtained.

Both equations fit data well, and all coefficients possess the expected sign. It is found that the exchange rate variable , whether it is overvalued or not, plays a key role for the portfolio motive in determining the money demand. Also, the process of monetization is statistically significant within the range of observations. It is shown as an increase in the money demand not along with the motives theoretically postulated, but along with time elapsed.

The coefficient of real income exceeds unity in both cases by which elastic demand for transaction motives is implied.[14] There are some other empirical studies in which income elasticities were similarly reported. Nevertheless, the interpretation of this coefficient may be rather difficult since there is little theoretical reason for money to be treated as a luxury commodity. In Indonesia, there remains the question of what proportion of economic activities recorded monetary income covers. It is suspected, for example, that a fairly large amount in the service sector has not been well-documented in income data. Rather, it is evident that the unrecorded portion has played a key role in absorbing the unduly a large labor force. In addition, it is noteworthy that the unmonetized sector may remain considerably large. Thus recorded income may underestimate actual economic activities in Indonesia. Nonetheless, the supply and demand for money suggest that during the relatively low inflation period in the past, Indonesian monetary conditions have progressed in a stable manner. The time trend, which represents one measure of the pace of monetization process, has a positive figure and is statistically significant at the 5 percent level. The important motive of the money demand in Indonesia is a cost of speculative motive in terms of the relative price of rupiah. Whenever the rupiah was thought overvalued relative to other currencies, pressure on the exchange rate appeared since there were limited domestic hedging instruments against such a shock. The way to protect the real value of financial wealth was to switch to other currencies, most often to

the US dollar.[15] The estimated elasticity coefficients in both cases are approximately -0.2 and statistically significant at the 5 percent level. This implies that expectation of rupiah devaluation has been one of the key variables to explain the Indonesian demand for money.

IV. NEW FINANCIAL DEVELOPMENT SINCE 1983

1. Aims of Policy Changes and Immediate Results

The official explanation of the June 1, 1983 Monetary Policy was to encourage banks to maximize the mobilization of their funds from the public and thereby reduce their dependence on the central bank for low cost funds in their lending activities. This objective seemed to correspond well with both short run and long run policy considerations.

In the short run, Indonesia had to reform its monetary system to incorporate more competitive factors. As pointed out, the monetary system, which was dominated by state-owned banks, was inherently induced by the various controls of the monetary authorities. The interest rate ceiling did not seem to be effective in promoting investment, especially, in the private sector since credits had been limited. Consequently, the central bank was forced to allocate funds among programs which were often not chosen on the basis of efficiency. Once those programs were officially acknowledged, it was common for them to have been preserved at considerable economic cost.[16] The state banks had established a channel with Bank Indonesia to receive large credits, an inefficiency which could not be easily eliminated. In addition, those institutions were not prohibited access to external financial markets. Thus those institutions were enabled to utilize this portfolio option. This suggests that state-owned banks could have an opportunity for handsome earnings abroad. It may not be unrealistic to say that this type of vicious circle could only have probably survived because of abundant oil earnings in the central government. To break up those linkages, the policy makers had to change their basic policy stance. In particular, guided resource allocation needed to be questioned. In a similar vein, the monetary authorities considered whether to abandon the credit rationing policy and the interest rate ceiling. In the early 1980s, this change was imminent. By that time, it was widely speculated that oil earnings would not be so promising in the future.

If the interest rate ceiling were to be dismantled the depositors would be expected to become better-off. Competitive interest rates should reflect all sorts of information on a wide spectrum of economic activities. Thus, when liquidity becomes low enough, interest rates interest should be adjusted upward. This means that whenever the rupiah is expected to depreciate, the rise in the rate of interest would help protect depositors from the currency risk. Depositors therefore could face a proper set of choices between real goods or monetary assets, even though capital market in Indonesia is not well developed. Contrary to what financial repressionists assert, once the money market is greatly liberated, the public can shift their expenditure from goods consumption to savings. Of course, the Indonesian monetized sector is small. Nevertheless, the learning process may not be limited, but rather it may enlarge the economic basis. In addition to the on-going monetization in Indonesia as evident in Table 1, the financial institutions can have a greater degree of freedom to mobilize funds. A liberalized monetary system, even though it may be partial, can be useful to enhance total efficiency in the economy.

In the long run, the Indonesian economy must inevitably change its structure. This structural change includes, at least, two aspects. One is to encourage private sector production. Because of the high economic growth goal, the government has stressed direct intervention in the market. Thus, this development seems to be hampered by the basic economic approach. There is an obvious reason for which the public sector cannot grow with the past speed: oil revenues will not continue to be large. There are many theories to support this dismal but realistic prediction. Additionally, even though government spending would be an easy way to raise the growth rate, many technocrats have recognized that this policy creates an excessive economic

cost which is difficult to compensate with other policy measures. So long as the government intends to pursue the growth goal, the expansion of the private industrial sector is necessary. As widely discussed among policy-makers, the private industrial base is seriously underdeveloped. Whether it is liked or not, an industrial policy for long-term consideration may be worth studying, as Japan, Korea and other Asian NICs have become quite successful in such a way. In this regard, future success will depend directly or indirectly on the size of the newly mobilized funds. It is essential that capital flows into the private manufacturing industries.[17] It is also felt that these sectors are the capable of absorbing the massive labor force.

The second aspect of the long run appproach is related to the Indonesian balance of payments. Import substitution has not yet contributed a great deal to the balance of payments. On the contrary, that policy actually required a lot of expensive capital equipment.[18] Obviously, this policy can contribute to the growth without aggravating the balance of payments only if the value of oil exports remains promising. As far as the future course of economic development is concerned, Indonesia must become less and less dependent on the oil sector. President Soeharto's remark on the 'take-off' may assume this point in which the Indonesian balance of payments should not be significantly affected by the conditions of the world oil market. In this sense, Indonesia must rely increasingly upon the exportable industries in the next decade or so. The previous monetary system and policy were not consistent with such a change. If these policies had not changed, the economic situation of the Indonesian economy would probably be impaired.

Table 11 The Immediate Effect of the New Policy in June 1983 on Time Deposits with State Banks and Selected Deposits Interest Rates

	Time Deposits (in Billion Rupiah)				Interest Rates (in % p.a.) (b)	
	3 Month Deposits(a)	6 Month Deposits	12 Month Deposits	Total Time Deposits	3 Month Deposits	12 Month Deposits
1983						
January	3.4	12.2	39.1	911.8		
February	3.4	11.4	40.1	904.7		
March	3.6	11.6	42.3	905.8	9.6	9.6
April	3.3	11.2	42.6	895.9		
May	8.1	26.9	41.2	911.8		
June	129.6	119.3	111.9	1124.0	16.5	16.5
July	200.0	142.8	217.9	1287.1		
August	262.7	200.3	352.7	1500.0		
September	297.7	210.4	417.0	1581.7	16.2	16.6
October	390.5	327.4	480.3	1830.4		
November	465.8	344.5	683.6	2094.9		
December	449.1	298.6	837,9	2125.8	15.7	17.4

Note : (a) Less 3 month deposits are also included.

(b) Those rates are some sample interest rates with an unspecified state bank.

Source : Bank Indonesia, Weekly Report

The newly introduced reform is along these lines and has been accepted as a step in the right direction. There are three specific changes in the new policy: first, state-owned banks can freely set their deposit rates on all maturities, except for the small savings program; second, credit ceilings are abolished for all banks; third, the number of programs qualifying for new Bank Indonesia credits are minimized. Immediately after these changes, an enormous increase in volume of time deposits was observed, for example, with state banks. Table 11 shows monthly data from 1983. Clearly, the effect of policy change appeared instantaneously. In six months after the new policy, time deposits expanded by more than 130 percent. Due to the change in monetary policy, a slight decline in the dominance of state banks has been observed, as evident from Table 12. Even though the immediate increase in time deposits was favorably welcomed, some serious problems remain unanswered. After the reform, deposit rates have stayed relatively high. The official explanation was that domestic interest rates should now be determined by the market. However, the real rate of interest in Indonesia, after adjusting the ex-post consumer price index, has been far exceeding the international level. One possible reason for this is that there has been constant uncertainty about the rupiah value. Domestic monetary reform may not be sufficient to eliminate this kind of market uncertainty. Another explanation is that more time is needed to realize a desirable condition in the money market, thus present conditions may be transitory. Otherwise, this high real rate may reflect a high return in a real sector, as neoclassical growth theory predicts, since the Indonesian economic growth has not been so bad compared with many other developing countries.

Table 12 The Share of Group of Banks in Total Assets and Loans in the 1980s

Group of Banks	Assets or Loans	March 1980	March 1981	March 1982	March 1983	March 1984
State Banks	Assets	79.0	79.8	79.6	77.0	74.8
	Loans	80.1	78.9	78.5	78.4	74.4
National Privte Banks	Assets	8.9	9.4	9.9	11.2	13.9
	Loans	9.9	10.7	11.0	11.9	15.5
Regional Development Banks	Assets	3.5	3.9	3.6	3.2	3.5
	Loans	2.1	2.3	3.2	3.2	3.1
Foreign Banks	Assets	8.6	6.9	6.9	8.6	7.8
	Loans	7.9	7.6	7.3	6.5	7.0
Total	Assets	100.0	100.0	100.0	100.0	100.0
	Loans	100.0	100.0	100.0	100.0	100.0

Source : Bank Indonesia, Report for the Financial Year, 1980/81, 1981/82 and 1983/84.

At the same time, the spread between deposit and borrowing rates was frequently noted to be substantially large even after the reform. Since borrowing rates were not openly available, it is difficult to make a definitive conclusion. However, there is strong reason to believe this view. Due to deregulation, banks tended to prefer adjustable rates when extending credits. A growing proportion of credits has been made on this adjustable system. This tends to increase interest rate volatility and thus to raise borrowing risk. Banks have now become more cautious in providing further credits to existing and potential borrowers. The thinner the market spread is, more efficient the financial market is, as typically exemplified by the Euromoney market. In this regard, the Indonesian money market needs to be further improved.

In addition to this market uncertainty, the realized and maintained high deposit rates may be

explained as follows. The sudden reform in the monetary policy induced the Bank Indonesia to restrain liquidity credits. State banks, in particular, experienced a severe shortage. Prior to the reform, state banks were the main suppliers of funds to the interbank market because they had excessive reserves. The source of excess reserves was the Bank Indonesia liquidity credits. Thus, the new development in the money market reversed the situation for state banks. All banks, not just state banks, had to compete in attracting deposits. At least, in the first year after June 1983, the competition was fierce and a dramatic effect on time deposits was observed. Effects on savings and certificate of deposits (CDs) were of a lesser magnitude since not all banks were permitted to participate in these areas.

Meanwhile, strong credit demand continued despite the economic slowdown. The leading borrowers were state- enterprises such as Pertamina, Krakatau Steel and Bulog. The strong demand eventually supported the high rates of interest which were established immediately after the reform.

In September 1984, a minor money market crisis occurred.[19] The interbank money rate suddenly increased to an unacceptable level of 90 percent. Even though the crisis was temporary, the incident gave a message to the market and monetary authorities. It revealed a weak aspect of the Indonesian money market. Some commented critically about the ability of the central bank's crisis management and ineffective supervisory services to marginal banks. Essentially, the crisis was caused by a serious shortage of rupiah liquidity. Without the Bank Indonesia credit facilities, there was no alternative source of financing. The central bank encouraged use of the interbank market. So this single shock, probably from a widespread rupiah devaluation rumor, impinged on the money market, then spectacular pressure appeared in the interbank money market. This incident clearly demonstrated that the central bank need to facilitate more practical instruments in the financial sector.

2. Follow-up Policy Mearures

A sweeping reformation of government economic policy thought occured before the fourth REPELITA. Although the overall revision in government development strategy was not explicitly announced, a departure from import substitution was, at least, taken into account. Otherwise, the relative share of the public sector in the whole economy would have continuously been growing at the expense of the export sector. By the end of 1983, it looked almost certain that the world economy would remain slow. Indonesian exports, oil and others, seemed likely to be less promising unless drastic policy measures were employed. Therefore, a change in the policy seemed inevitable for the sake of the balance of payments and continued economic growth. Sustained economic growth is the goal for the next five year plan. This goal may be difficult to achieve without an enlarged industrial base and the promotion of the non-oil export sector. The ambitious plan, five percent growth target through 1989, was announced and became effective in 1984.

The monetary authorities can no longer use direct intervention in credit supply. They have to create alternative policy instruments. Indirect measures have been studied. Even though high economic growth was stressed in the plan, price stability is also equally emphasized because of social and political considerations. This means that money supply will need to be restrained within a tolerable level. As pointed out in an earlier section, there seems to have existed a clear relationship between inflation and money supply in the past. The central bank's concern now shifted, though not completely, from credit supply to discrete 'monetary' policy, because the implementing function of liquidity supply moved from Bank Indonesia to other banks. In this sense, the central bank entered into a new era of policy operation.

To fulfill this new requirement, the Bank Indonesia announced two types of rediscount facilities in February 1984. The first one is the installation of the rediscount window. This serves to assist all banks, both state and non-state banks, in day-to-day liquidity management. Since the maximum maturity of this facility is set at two weeks, it is supposed to be used for very short-term purposes. The second rediscount facility is for relatively longer purposes. In

a case of sudden decline in deposits growth, banks will face some difficulty in arranging long-term loan commitments. To help banks avoid potential mismatch, Bank Indonesia provides rediscount services for the duration of two to four months.

Initially, the Bank Indonesia assumed that these policy facilities would be used for the lender-of-the-last-resort purposes. Maximum access to the two facilities, short-term and longer-term, was set to 5 and 3 percent of total deposits, respectively. Combined access of 8 percent of total deposits was allowed. Since the interbank market was expected to grow and open to all deposit banks, the central bank encouraged banks to borrow through the interbank money market. Unfortunately, a severe liquidity shortage in September 1984 was revealed in this market when many banks were reluctant to use the rediscount facility windows because of the central bank attitude concerning these facilities. Immediately after this incident, Bank Indonesia reversed its policy to encourage banks to utilize these facilities. The change was easily apparent, since accessibility of banks to the interbank money market later had to be restricted in October 1984. The imposed ceiling on outstanding borrowings from the market became 7.5 percent of a bank's liabilities. In August 1985, the limit was raised to 15 percent.

Another important development is the appearance of short-term securities issued by the central bank. The Bank Indonesia Debt Certificates (SBIs) were revived for possible use on the open market in February 1984. They were first issued in 1970. However, abundant liquidity created by the oil boom had made the central bank less enthusiastic to promote SBIs. Banks were encouraged to invest excess reserves in foreign assets. As a result, the issuance of the central bank certificates ceased.

The policy change in 1983 deregulated interest rates. This was the end of the administered interest rate system. At the same time, the Bank Indonesia decided not to pay interest on rupiah and foreign exchange reserves. Instead of preferential treatment for bank reserves, to manage the bank liquidity definitely the central bank needs an instrument to absorb or release such a liquidity from banks. Thus, SBIs should be reasonably attractive to banks. An SBIs auction was therefore introduced and FICORINVEST (or Bank Indonesia, if necessary) was put in charge of this dealing. It is hoped that a systematic structure of interest rates in the market will coalesce around the SBI rate. So far, there appears to be no secondary market for SBIs in Indonesia.

Along with active development in the Indonesian money market, the monetary authorities found it necessary to permit money market instrument (SBPUs). The government did not have any reason not to mobilize resources by these in a wider range of markets. Therefore SBPUs were allowed starting in January 1985. These securities are essentially contingent liabilities of the banks or non-bank financial institutions. There are three kinds of SBPUs: first, promissory notes issued by financial institutions; second, similar notes issued by customers of eligible financial institutions, when they borrow from such customers; and third, bills of exchange issued by third parties and endorsed by eligible financial institutions.

SBPUs are rediscountable up to certain limits at FICORINVEST, entitling to set selling and buying rates for SBPUs of different maturities. Bank Indonesia regulates the eligibility of participants and instruments and also the maximum interest rate from the standpoint of the market quality. So far, the active use of SBPUs has concentrated on the shorter maturity of first type. And state banks are less enthusiastic to utilize SBPUs. These state banks are still accessible to low cost refinancing from the central bank and to low cost deposits from the governmental institutions and public entities. In other words, the SBPU market is very segmented. Nonetheless, the direction of development in the money market seems promising and the financial world generally welcomed this policy. It is too early to make a conclusive judgement concerning effects of these new events at present.

Related to this monetary deregulation, foreign banks, which had been under the severe restricitions, have been permitted to extent export credits with subsidized interest rates to their customers operating outside Jakarta since September 1985. Foreign banks have long requested more freedom of operation in Indonesia. This new development may be a first step in expanding their activities. Similarly, foreign and joint venture companies can receive export

credits from state and national private banks. This change corresponds to the major reform in economic policy favoring export promotion.

V. PROSPECTS OF THE INDONESIAN FINANCIAL SECTOR AND CONCLUDING REMARKS

As the private industrial sector is expected to grow considerably in the next decade, national private banks will correspondingly have to serve as a crucial promoter of investment. As widely recognized, the banking sector is in a relatively advantageous position for collecting market information and hiring well-trained staff. Generally, it is known that the latter are an extremely scarce resource in Indonesia. In this regard, the banking industry is expected to serve multiple roles such as consultants, marketing and accounting advisors, and even as technical experts. Also, as monetization advances in many regions, the regional development banks are expected to lead the regional industrialization. At this present stage, these banks are very fragile in many respects. Nonetheless, in many areas, these banks are probably the largest institutionalized banks. Without their vitality regional growth would not be so promising. In this sense, their role should not be underestimated. In spite of their importance, their relative share in assets and loans has been insignificant so far.

In addition, some key open economy variables, which have become major factors in Indonesian macroeconomic performance, need to be carefully analyzed. In this respect, it should be emphasized that the scope of independent monetary policy in Indonesia must be repeatedly questioned. Almost certainly, policy options available to Indonesian monetary authorities must be chosen in light of external economic conditions.

Generally, policy actions introduced in the 1980s seem to be a right step to strengthen the Indonesian monetary system and economic base. However, it is uncertain whether these new policies will be truly effective in realizing the prolonged high economic growth goal. Overall economic policies need to be consistently interwoven. The financial sector is still relatively weak, and excessive expectations may become a burden fpr it.

NOTES

This paper is part of a report for a research project organized by Professor Shinich Ichimura. An earlier quantitative investigation was reported in Ezaki(1982). The authors wish to thank Professor Ichimura for his continuous encouragement and advices. They are also grateful for the constructive comments of Dr. Boediono (BAPPENAS), Dr. Has Tampubolon (BAPPENAS), Dr. Dono Iskandar (Ministry of Finance), Professor Wayne Snyder (Harvard Institute for International Development) and Professor Mitsuo Ezaki (Kyoto University). The views expressed here are the authors' and do not necessarily represent the views of any organizations.

1) As widely known, this was to a greater extent induced by an expansive monetary policy due to fiscal sector domination.
2) The role of monetary economics in developing countries are briefly summarized in, for example, Ghatak(1981).
3) The causes and effects of the Indonesian hyperinflation were examined by Agheli and Khan(1977). Also, Nasution(1983) describes thoroughly the underlying economic conditions.
4) The issue of credit rationing is popular among developing countries. Indonesia was not exceptional until 1983. The essential message of this policy is described in, for example, Johnson(1974).
5) Inter-Governmental Group on Indonesia is composed of major industrial countries.
6) Those numbers are as of August of 1986.
7) REPELITA is a five year economic plan and the first one started in 1969. The third one ended in March 1984.

8) Administered credit supply sometimes leads to expensive and inefficient projects. The criticism against development strategy through this kind of policy centers around the issues of inefficiency. The cases of the Indonesian big projects have widely been argued as similar incidents of this problem.

9) Because of this policy, it has been said that there was no illicit currency market in Jakarta.

10) The transaction motive of money demand in LDCs is the foundation of the McKinnon model as well as Gurley and Shaw model. See McKinnon(1973), for example.

11) The following is the list of variables used in this section:

M: narrowly defined money supply, in which currency in circulation and demand deposits are included
M_k: a portion of money supply which is related to behavioral causal factors
M_L: a portion of money supply linked to non-behavioral causal factors
k: money multiplier
L: central bank liabilities
M_F: foreign assets owned by the central bank
M_G: net credits to the government of the central bank
M_P: central bank's other assets which resulted from policies of the bank

The source of data is described in the note of Table 9.

12) There are many documents concerning the importance of the demand for money. Laidler(1969) and Johnson(1972), for example, are useful materials in explaining theoretically and empirically relevant issues. The empirical test for the case of Indonesia is attempted by Boediono (1985).

13) See Grenville(1981), in particular, pp.107-110.

14) For example, see Boediono(1985), Table 4 on p.91.

15) An interesting analysis is presented to explain the development and expansion of the Jakarta Dollar market by Arndt and Njoman(1982). They stated correctly that this new phenomenon would serve to increase the economic well-being in Indonesia. This is because the market would encourage much wider activities of this kind to create domestic rather than foreign hedging opportunities for Indonesia residents.

16) Interest rates ceilings are quite popular in developing countries in recent economic studies. Many economists point out that the cost of financial repression, which is mostly due to the limited scope of interest rate adjustment, should not be understimated. Fry(1980), Khatkhate(1980), Roe(1982) and Tybout(1983) are some of representative studies recently reported.

17) The current economic plan was in part created in the belief that five percent economic growth is needed to mitigate the labor force pressure on the market. And it is obvious that in that goal the manufacturing sector must play a leading role. See also the next section for more explantion.

18) In general, it is known that the cost of import substitution will become far excessive. In this regard, export promotion versus import substitution must be carefully examined for the case of Indonesia. This study cannot deal thoroughly with this topic because of its limited scope. For further discussion, see, for example, Krueger(1978).

19) Nasution(1985) also explains the economic background of this disturbance. See his article, expecially, on pp.20-21.

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CHAPTER IX
POPULATION AND ECONOMIC DEVELOPMENT

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Abstract/Summary

Population growth in Indonesia still remains high for the past twenty years. The development process has increased people's awareness to limit their families size, at the same time successful development also realized improvement in the health of the majority of families which reduce the death rate.

Another consequence of population growth in Indonesia is the increased differentials in density of population among regions. This affected the quality of life in the respected regions and increased the social problems such as availability of clean environment and other social services.

The problems of rural-urban migration have become very serious, because the urban areas attracted more and more rural people to big cities. Urbanization became more serious after 1971.

This chapter which is written by two scholars from Japan, Prof. kazumasa Kobayashi and Prof. Keiichiro Matsushita, and an Indonesian scholar, Dr. Prijono Tjiptoherijanto, tries to identify the population growth in Indonesia and its impact both on regional density and also on urban services. Part one of the chapter will discuss about growth and regional distribution of population, while the second section is about implication of regional differentials in economic and demographic variables. The last part of the chapter is a discussion on urbanization and population pressures in the city as consequences of high population growth.

(Prijono Tjiptoherijanto)

I. GROWTH AND REGIONAL DISTRIBUTION OF POPULATION

1. Population Growth

Indonesia dominates the Southeast Asian region both in population and land area. It is the fifth most populous country of the world: in the 1980 Census, the third census since her independence, the population of Indonesia was enumerated at 147.5 million on total land area of 1.9 million square kilometers. There is, however, a striking difference between population density in the Java-Bali region and the rest of the country. This contrast is known as the dichotomy of Inner/Outer Indonesia (Table 1). Hugo (1980) compared the distribution of rice production by major regions of Indonesia in 1974 through 1976 with that of population in 1976, and found this to be a major element explaining the heavy concentration of Indonesia's population in the small region of Inner Indonesia, the provinces in Java and Bali. Table 2 shows a similar comparison using 1980 data for the two major regions. Inner Indonesia has 64 percent of the population and 65 percent of the nation's rice production. Note also that, although urbanization is proceeding, Indonesia still remains predominantly rural.

Table 1 Population, Land Area and Population Density by Two Regions, Indonesia, 1980

Region	Population (in 1,000s)	(%)	Land Area (in 1,000km)	(%)	Density (per km)
Indonesia	147,490	100.0	1,919	100.0	77
Inner Indonesia	93,739	63.6	138	7.2	681
Outer Indonesia	53,751	36.4	1,782	92.8	30

Note: Inner Indonesia comprises of the provinces in Java and Bali.
Source: Indonesia, Biro Pusat Statistik (1981).

Table 2 Percent Distribution of Population and Rice Production by Two Regions, Indonesia, 1980

Region	Population	Rice Production
Indonesia	100.0	100.0
Inner Indonesia	63.6	64.6
Outer Islands	36.4	35.4

Source: Table 1 for population.
Indonesia, Biro Pusat Statistik (1984) for rice production.

From the first intercensal period (1961-71) to the second (1971-80), the average annual rate of population growth rose up from 2.1 percent to 2.3 percent. The 1985 Intercensal Population Survey produced a preliminary estimate of Indonesia's population at 163.9 million (Indonesia, BPS, 1986). The rate of population growth for 1980-1985 is thus 2.1 percent per annum. The analysis of these changing rates of population growth requires a measure of changes in the underlying vital components. However, due to lack of direct data on vital registration in In-

donesia, we have to rely on some indirect estimates of fertility and mortality to explain the changing rates of population growth. According to a set of indirect estimates of vital rates presented by McNicoll and Singarimbun (1983), the crude birth and death rates for 1961-70 are 43 and 22 per thousand population respectively,and those for 1971-80 are 38 and 15 respectively. This estimate suggests that the rise in the growth rate of population from the 1960s to the 1970s has been brought about by a faster reduction of mortality rates than fertility rates.

Other estimates of Indonesia's fertility and mortality during the recent decades also indicate a declining trend. Consider the following total fertility rate estimates for Indonesia in Table 3 from censuses and surveys. (Cho, et al, 1980) (McNicoll & Singarimbun, 1983) (Dasvarma & Hull, 1984):

1961-70	5.6
1967-70	5.6
1971-75	5.1
1974-78	4.5
1976-79	4.7
1980	4.3

Research in the proximate factors behind the Indonesian fertility decline suggests that the primary reason for the fall of the total fertility rate during the 1960s and 1970s was caused by the decline in marital fertility due to the widespread adoption of modern contraceptive methods. The effect on the total fertility rate of the increased age of the female at marriage was barely noticeable, if the net effect, counterbalanced by falling rates of divorce and widowhood, is considered (McNicoll & Singarimbun, 1983). The Indonesian government's organized family planning program was set up in 1970. Their activities were first concentrated in Java and Bali and by the end of the 1970s all provinces of Outer Islands were involved.

As to mortality, the following probabilities of infant and child death estimated for Indonesia from the 1976 Indonesia Fertility Survey also support a declining tendency of Indonesia's overall mortality. (Rutstein, 1983):

Years prior to 1976 Survey	q_o	$5q_0$
0 - 4	94.6	158.5
5 - 9	98.6	171.2
10 - 14	121.2	208.4
15 - 19	121.8	220.6
20 - 24	154.4	257.8

The last population census of the Colonial Period was taken in 1930 and the total population of Indonesia was enumerated at 60.7 million. The geographical coverage of the 1930 Census corresponds to that of the 1961 Census, so comparisons can be made. The average annual rate of population growth during the census interval 1930-61 is calculated to be 1.52 percent. A greater part of this three-decade period was a time of difficulties for Indonesians due to the Great Depression in the early 1930s, the Japanese occupation from 1942 to 1945 and the War of Independence during the second half of the 1940s. No nationwide empirical data on population are available for this intercensal period. Various efforts, however, have been made by demographers to estimate changing demographic trends for this intercensal period based on different demographic reconstruction method ((Widjojo,1970), (Speare,1981), (McNicoll & Singarimbun, 1983)). Their findings suggest that there were tremendous changes in population growth rate with a low point reached during the first half of the 1940s (or 1942-47) due to a fertility drop

and mortality rise.

For Java alone, a much longer history of population growth can be reconstructed by going back, through Dutch colonial reports and surveys of population during the latter half of the 19th century, to the Raffles Census of 1815. In the 1980 census a population of 91.3 million persons or 62 percent of Indonesia's population lived on Java (including Madura). In the 1930 Census, Java's population was enumerated at 41.7 million (69 percent of the total population). Demographic reconstruction as well as data evaluation for pre-1930 period have been attempted by demographers including Widjojo (1970) and Peper (1970). Raffles reported Java's population at 4.6 million for 1815 (Raffles, 1817). It has been agreed, however, by several authors that his figure was low; Java's population in 1815 seems to have been at least as large as 10.3 million (McDonald, 1980). Comparing this revised estimate with the 28.7 million which was reported for Java by the Dutch Colonial Survey in 1900, we determine a rate of 1.2 percent per annum for the population growth from 1815 to 1900. Java's population increased further to 41.7 million in 1930 with an average annual growth rate of 1.25 percent from 1900-30. Until the latest intercensal period of 1971-80 the growth rate of Java's population per annum continued to rise from one census interval to the next as in the following: 1.34 percent for 1930-61; 1.93 percent for 1961-71; and 2.02 percent for 1971-80. During the past nearly two centuries Indonesia's population reached its highest rate of increase per annum in the 1970s.

There is no evidence to support declining fertility in Indonesia from the 1950s to the 1960s. More or less constant levels of fertility were maintained until around the mid or late 1960s in Indonesia. Sometime during the 1960s and 1970s a transition from high to low fertility in Indonesia probably started. Indonesia's mortality rate seems to have begun declining somewhat earlier than its fertility rate. The population projections for Indonesia prepared by the Government of Indonesia (BPS, 1983) as well as those by the United Nations (1982) assume continuing declines of both fertility and mortality to much lower than the present levels.[1] Indonesia is on the course of demographic transition.

2. Age Structure

Data on age distribution for Indonesia are available from the three censuses of 1961, 1971 and 1980 and the 1985 Intercensal Survey. The census age data are, however, somewhat invalidated by underenumeration of the population at certain ages, particularly, of children less than one year old, and also by serious age misreportings as represented by conspicuous age heapings. Therefore, for the purpose of detailed age analysis or preparing population projections, we must appropriately adjust age distribution. Different methods of age adjustment have been applied to the Indonesian census age data ((Speare, 1981), (Gardiner, 1983)).[2] To observe a crude picture of age distribution for the usual three broad age groups, however, unadjusted census age data do not seem seriously distorted. The following are the census age distributions for Indonesia by three broad age groups in 1961, 1971 and 1980:

Age group	1961	1971	1980
All ages	100.0	100.0	100.0
0 - 14	42.1	44.0	40.9
15 - 64	55.4	53.5	55.8
65 +	2.5	2.5	3.3

The intercensal growth rates of population per annum by these three age groups are as follows:

Age group	1961-71	1971-80
All ages	2.1	2.4
0 - 14	2.5	1.4
15 - 65	1.7	2.6
65 +	2.0	4.9

The age data from the 1985 Intercensal Survey are presented as open-ended in ages 50 years or more in the preliminary report [Indonesia, BPS, 1986] and are not included above, but the proportion of the population under 15 years of age is 39.1 percent and the average annual rate of increase of the population in this age group between 1980 and 1985 is calculated at 1.3 percent. The proportion of children under the age of 15 was the largest in 1971. This was brought about by the continuing high fertility during the 1960s. The fertility decline thereafter is well reflected in the declining proportion of those under age 15 from 44 percent in 1971 to 39 percent in 1985, and also in the drop of the average annual rate of their increase from 2.5 percent in 1971-80 to 1.3 percent in 1980-85.[3] This change in the age structure of Indonesia's population lowered the age dependency ratio from 87 percent in 1971 to 79 percent in 1980. This movement could create favorable conditions for the nation's economic activities.

The status of economic activity of each individual is surveyed in the Indonesia's Census for those aged ten years and over. Between the Censuses of 1971 and 1980, the increase in the economically active population was affected by both the change in the proportion of economically active population and the change in the base population age ten and over. Taking males for example, the economically active population increased in Indonesia by 7.4 million or 1.27 times between 1971 and 1980. The age-specific proportions of those economically active decreased in some of younger and older age groups and the overall effect of changes in the age-specific proportions during this period on the total increase in the economically active males is calculated to have been negative to such an extent as to reduce it by as much as 11.3 percent of the actual increase. This means that the increase in the male base population aged ten or more would have increased the total economically active males by 111.3 percent of the actual growth if the age-specific proportions economically active remained unchanged during 1971-80.

3. Regional Distribution of Population

The dichotomy of Inner/Outer Indonesia has already been noted. Inner Indonesia's share of population, however, has been gradually lessening with growth rates of population lower in Inner and higher in Outer Indonesia (Table 3). The lower rate of growth in Inner Indonesia has resulted largely from excess out-migration as well as a lower natural rate of increase, and the higher rate in the Outer Islands from excess in-migration as well as a higher rate of natural increase. Table 8 shows provincial rates of net migration and natural increase from the estimates by Hugo [1980] for 1961-71 and Dasvarma [1985] for 1971-80. Very high rates of positive net migration in Lampung during the both intercensal periods (3.11 and 2.25 %) and in East Kalimantan during 1971-80 (2.17 %) reflect the combined results of massive inflows of government-sponsored transmigration programs and spontaneous migrants largely from Central and East Java, where the net migration rate is negative. "The pattern of change in the distribution of the Indonesian population from Inner to Outer Indonesia is", Hugo [1980] writes, "described as being from the eastern two thirds of Java to Jakarta and the Outer Islands".

Table 3 Distribution of Population and Average Annual Rates of Population Growth by Major Regions, Indonesia (%)

Region	Population Distribution				Growth Rates per annum		
	1961	1971	1980	1985	1961-71	1971-80	1980-85
Indonesia	100.0	100.0	100.0	100.0	2.1	2.4	2.1
Inner Indonesia	66.8	65.6	63.6	62.3	1.9	2.0	1.7
Jakarta	3.1	3.8	4.4	4.8	4.5	3.9	3.8
Inner Indonesia excl. Jakarta	63.7	61.8	59.1	57.6	1.8	1.9	1.6
Outer Islands	33.2	34.4	36.4	37.7	2.5	3.0	2.8

Source: Indonesia, Biro Pusat Statistik (1981, 1986).

Table 4 Breakdowns of Growth Rate of Population, Net Migration Rate and Natural Rate of Increase per annum by Province, Indonesia, 1961-71 and 1971-80

Province	1961-71			1971-80		
	(1)	(2)	(3)	(1)	(2)	(3)
Ache	2.14	-0.02	2.16	2.93	0.15	2.78
North Sumatra	2.96	0.16	2.80	2.60	-0.23	2.83
West Sumatra	1.82	-0.46	2.28	2.21	-0.62	2.83
Riau	2.96	0.71	2.28	3.11	0.55	2.56
Jambi	3.25	1.00	2.25	4.07	1.06	3.01
South Sumatra	2.21	0.07	2.16	3.32	0.39	2.93
Bengkulu	2.55	0.25	2.30	4.90	1.21	3.18
Lampung	5.82	3.11	2.71	5.76	2.25	3.51
Jakarta	5.09	3.04	2.05	3.93	1.34	2.59
West Java	2.05	-0.23	2.28	2.66	0.04	2.62
Central Java	1.70	-0.39	2.09	1.64	-0.65	2.29
Yogyakarta	1.02	-0.35	1.37	1.10	0.22	0.88
East Java	1.55	-0.14	1.69	1.49	-0.28	1.77
Bali	1.74	-0.14	1.88	1.69	-0.11	1.80
West Nusatenggara	2.00	0.07	1.93	2.36	-0.07	2.43
East Nusatenggara	1.55	-0.05	1.60	1.95	-0.07	2.02
West Kalimantan	2.07	-0.07	1.51	2.31	0.16	2.15
Central Kalimantan	3.60	0.46	3.14	3.43	0.90	2.53
South Kalimantan	1.44	-0.07	1.51	2.16	0.12	2.04
East Kalimantan	2.92	0.07	2.85	5.73	2.17	3.56
North Sulawesi	2.79	0.05	2.74	2.31	0.06	2.25
Central Sulawesi	2.82	0.02	2.80	3.86	1.15	2.71
South Sulawesi	1.37	-0.25	1.62	1.74	-0.41	2.15
Southeast Sulawesi	2.47	0.07	2.40	3.09	0.30	2.79
Maluku	3.24	0.09	3.33	2.88	0.37	2.51
Irian Jaya	2.04*	0.37**	1.67	2.67	0.00	2.67

Col.(1)= Average annual rate of population growth.
Col.(2)= Average annual net migration rate.
Col.(3)= Average annual rate of natural increase.

* Only an estimate. ** Including immigrants in Jayapura only.
Sources: Columns (1), (2) and (3) for 1961-71 from Hugo (1980), column (2) for 1971-81 from Dasvarma (1985), column (1) for 1971-81 from Indonesian Censuses of 1971 and 1980 and column (3) for 1971-80 = (1)-(2) for 1971-80.

Provincial variations of natural rates of increase are also noticeable, and roughly speaking, the rates in Outer Island provinces are in general higher than those in Inner Indonesia provinces, though there are several exceptions in both regions.

The proportion of the urban population in Indonesia increased from 15 percent in 1961 to 16 percent in 1971 and then to 22 percent in 1980[4]. Indonesia is characterized by its graduated distribution of city sizes in contrast to, for example, Thailand with a primary city of Bangkok, or Burma with the overwhelming primacy of Rangoon (ESCAP, 1981). The population of Jakarta in 1980 was only 20 percent of the total urban population of Indonesia. Of the nation's urban population in 1980, 40 percent lived in the localities with population less than 10,000.

The expanding proportion of urban population as noted above means urban population is growing faster than the national average. There are generally three elements of urbanization. The first is natural increase of population in urban areas, the second is net migration of population from rural areas, and the third is the reclassification of areas from rural to urban categories. A study of the components of the population growth in Indonesia's municipalities (ESCAP, 1981) estimated that most of the growth of population came from natural increases over the 1961-71 period and this tendency was intensified for the 1971-76 period. The study also indicated that in the 1971-76 period Jakarta is an exception in that net migration made a greater contribution to overall urban growth than did natural increase in 1961-71.

A comparison of growth patterns of population will be made between the nation's rural and urban areas for the 1971-80 period by dividing the population into three components: those under 10 years old, those employed and those not employed (including those not economically active). The latter two components are those aged 10 years or more and the three components add up to the total population. Letters, r_1, r_2, r_3 represent the percent increase of the total population for the above-mentioned three components, respectively, in the 1971-80 period, and w_1, w_2, w_3 are the proportions of the respective components to the total population in 1971. The following equation is established:

$$r = r_1 \times w_1 + r_2 \times w_2 + r_3 \times w_3$$

Calculations for the nation's total, rural, and urban areas are as follows:

Total 23.3 = 11.4 x 0.32 + 36.2 x 0.32 + 22.4 x 0.36
Rural 15.7 = 5.3 x 0.32 + 28.6 x 0.33 + 13.1 x 0.35
Urban 59.5 = 43.0 x 0.30 + 82.6 x 0.26 + 57.1 x 0.44.

Taking the value of the left side of the respective equations as 100:

Total 100.0 = 48.9 x 0.32 + 155.6 x 0.32 + 96.3 x 0.36
Rural 100.0 = 34.0 x 0.32 + 182.4 x 0.33 + 83.3 x 0.35
Urban 100.0 = 72.2 x 0.30 + 138.8 x 0.26 + 96.0 x 0.44.

In rural areas the growth rate of the working population is as high as 182, taking the growth rate of the total rural population as 100, while in urban areas it is as low as 139. Although the absolute growth rate of population was much lower in the rural areas (15.7 percent) than in the urban areas (59.5 percent), the growth rate of the working population relative to the growth

rates of the other components was much greater in rural areas than in urban areas. The role of the growth rate of children under 10 years old was conspicuously higher in the urban than in the rural areas in absolute as well as relative terms. This supports the finding of the large role of natural increase in the urban population growth as mentioned before.

Similar calculations cannot be done for rural/urban and Inner/Outer cross-classification due to data limitations, but are possible if simply classified only for Inner and Outer Indonesia. The results of calculations for the national total, Jakarta, Inner Indonesia and Outer Islands are as follows:

Total	23.3 = 11.4 x 0.32 + 36.2 x 0.32 + 22.4 x 0.36
Inner	19.9 = 5.2 x 0.31 + 33.9 x 0.32 + 19.8 x 0.36
Jakarta	42.6 = 26.0 x 0.31 + 62.9 x 0.26 + 41.0 x 0.43
Inner excl. JKT	18.5 = 4.0 x 0.31 + 32.5 x 0.33 + 18.2 x 0.36
Outer	29.7 = 22.5 x 0.33 + 40.8 x 0.31 + 27.4 x 0.36

Taking the value of the left side of the respective equations as 100:

Total	100.0 = 48.9 x 0.32 + 155.6 x 0.32 + 96.3 x 0.36
Inner	100.0 = 26.0 x 0.31 + 170.9 x 0.32 + 99.7 x 0.36
Jakarta	100.0 = 62.0 x 0.31 + 149.7 x 0.26 + 97.7 x 0.43
Inner excl. JKT	100.0 = 21.8 x 0.31 + 176.0 x 0.33 + 98.6 x 0.36
Outer	100.0 = 75.7 x 0.33 + 137.0 x 0.31 + 92.0 x 0.36.

These three components show characteristic patterns of the growth rate of population among the three major regions of Jakarta, Inner Indonesia excluding Jakarta, and the Outer Islands. In every component, the absolute rate is the highest in Jakarta and the lowest in Inner Indonesia excluding Jakarta. The relative relationships among the three component rates of the Outer Islands are more similar to those of Jakarta than those of Inner Indonesia excluding Jakarta. The high growth rate of those under ten years old plays an important role in this similarity.

Indonesia's population increased by 22 million from 1961 to 1971, of which 43 percent were absorbed in the rural areas of Inner Indonesia, 30 percent in the rural areas of the Outer Islands and 18 percent in the urban areas of Inner Indonesia. The population growth in 1971-80 was 28 million, of which 35 percent was in the urban areas of Inner Indonesia and 22 percent in the rural areas of Inner Indonesia (Table 5). The relative weight of the rural areas of the Outer Islands in absorbing the nation's population growth is increasing.

The absolute growth of population in the rural areas of the Outer Islands during 1971-80 was 9.9 million, of which the economically active population (age ten years and over) was 3.5 million or 35 percent. Of this increase those employed in agriculture numbered only 1.96 million or 56 percent. It note, though, that of the increase in those employed in agriculture in all Indonesia for the 1971-80 period, 79 percent was absobed by the Outer Islands. In summary, during the 1970s the Outer Islands absorbed 45 percent of the increase in the total population, 62 percent of the increase in rural population, and 79 percent of the increase in those employed in agriculture.

Table 5 Percent Distribution of Population in 1971 and 1980 and of Increase in Population in 1971-80 by Rural and Urban Areas and by Major Regions, Indonesia

Regions	Population 1971	Population 1980	Increase in Population 1971-80
	Total		
Indonesia	100.0	100.0	100.0
Inner Indonesia	66.0	63.8	54.7
Jakarta	3.8	4.4	6.8
Inner Ind. excl. JKT	62.2	59.4	47.9
Outer Islands	34.0	36.2	45.3
	Rural Area		
Indonesia	82.7	77.6	56.4
Inner Indonesia	54.3	48.0	21.6
Jakarta	-	0.3	1.4
Inner Ind. excl. JKT	54.3	47.7	20.1
Outer Islands	28.4	29.7	34.8
	Urban Area		
Indonesia	17.3	22.4	43.6
Inner Indonesia	11.7	15.9	33.1
Jakarta	3.8	4.1	5.4
Inner Ind. excl. JKT	7.9	11.7	27.7
Outer Islands	5.6	6.5	10.5

Source: Indonesia. Biro Pusat statistik (1975, 1983).

NOTES

1) According to "the index of demographic transition" by Cho and Togashi (1984) which is constructed as a crude indicator to measure the proportion of the demographic transition completed using the data on total fertility rate, average expectation of life at birth and the proportion of population urban, Indonesia and some other Asian and African countries show the following values (the base data used are from U. N. Demographic Yearbook 1982): Japan 1.00, Singapore 0.95, Malaysia 0.60, Thailand 0.57, Philippines 0.55, Indonesia 0.43, Zaire 0.31, Nigeria 0.26, etc.

2) Gardiner (1983) refers to adjustments of census age data for Indonesia prepared by several other authors.

3) The age dependency ratio is calculated by dividing the population in ages under 15 and 65 or more by the population aged 15-64.

4) As to the definitions of rural and urban areas in the successive censuses, refer to ESCAP (1981:9). The calculations of intercensal changes in population by rural and urban areas are all made with no rural-urban boundary adjustment.

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II. IMPLICATIONS OF REGIONAL DIFFERENTIALS IN ECONOMIC AND DEMOGRAPHIC VARIABLES

Introduction

Regional differences in demographic conditions provide information about national population trends in Indonesia. Economic analyses of the relation between population and economy based on regional data substantiate and evaluate to some extent the theoretical implications derived by economic demographers. Time-series data would further facilitate future qantitative analysis of demographic trends in Indonesia.

Demographic trends are determined by the age composition of the population and patterns of death, birth, marriage and migration. Demography is based on those demographic events within three basic concepts: age, period and cohort. Although demography is concerned with individual persons, families and villages can form structured units as well.

The relationship between population and economy is so highly structured and complex that the demographic trend cannot be represented by the rate of population growth alone. Simultaneity in quantitative analysis often bewilders us and leads to ambiguous results[1]. On the other hand, in a simple neo-classical growth model, the population growth rate which is given exogenously plays an essential role in determining solution to the steady state of economic growth[2]. The rate of population increase is treated endogenously in some economic growth models although age structure is often neglected[3].

There are several economic simulation models which treat population endogenously[4]. In addition to the experimental simulation models, the existing econometric models, which describe national economy, could be extended to include the population sector interrelated to the economic sector. Theoretical analysis of demographic trends can ascertain empirical findings and intuitive relations among demographic-economic variables used in econometric and simulation models.

In the following, simple one-equation regression models are applied to analyze mortality, fertility and mobility based on provincial data in Indonesia.

Mortality, Fertility and Mobility in Indonesia

First, we consider mortality in terms of the infant mortality rate and life expectancy. The infant mortality rate is one of the good indicators of the level of economic development since it is assumed to be sensitive to the level of medical care, public health, education, and nutritional condition of mothers. The infant mortality rate also has an indirect relation to the economy through fertility where higher fertility increases the probability of infant death because of less attention from parents, while higher infant mortality increases fertility to compensate its loss. Overall, we expect a decline of mortality in the course of economic development.

For instance, Figure 1 shows a weak positive relation between the infant mortality rate in 1980 and the percent of those whose monthly per capita expenditure in 1981 is less than 6,000 rupiahs. Figure 2 shows the negative relation between the infant mortality rate in 1980 and the proportion of school enrollment in 1985. Figure 3 shows a negative correspondence between the infant mortality rate in 1980 and the proportion of inter-kab/kod migrants in 1985. This indicates that people migrate from area with high infant mortality to areas of low infant mortality over the long run. Economic conditions affect both infant mortality and migration.

Figure 4 shows a positive relation between the total fertility rate in 1980 and infant mortality rate in 1980. In the context of the demographic transition, high fertility and mortality rates shift downward. High mortality should be compensated by high fertility. Economic development reduces both fertility and mortality, although the speed and timing of the decline do not coincide each other in general. Regional differences seem to be a combined result of these relationships. Underenumeration of infant death could partly bring this result.

Figure 1

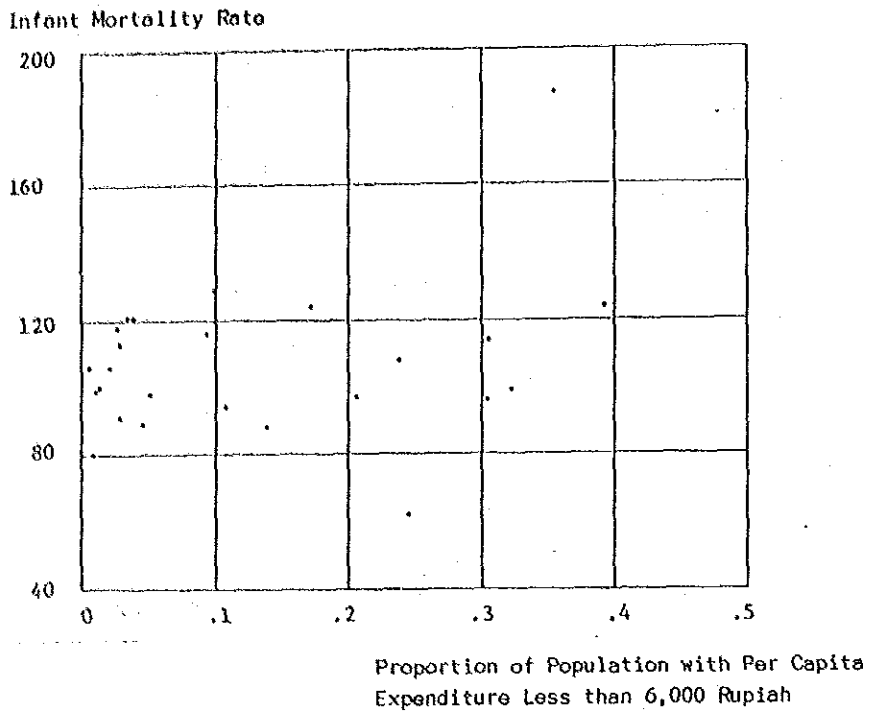


Figure 2

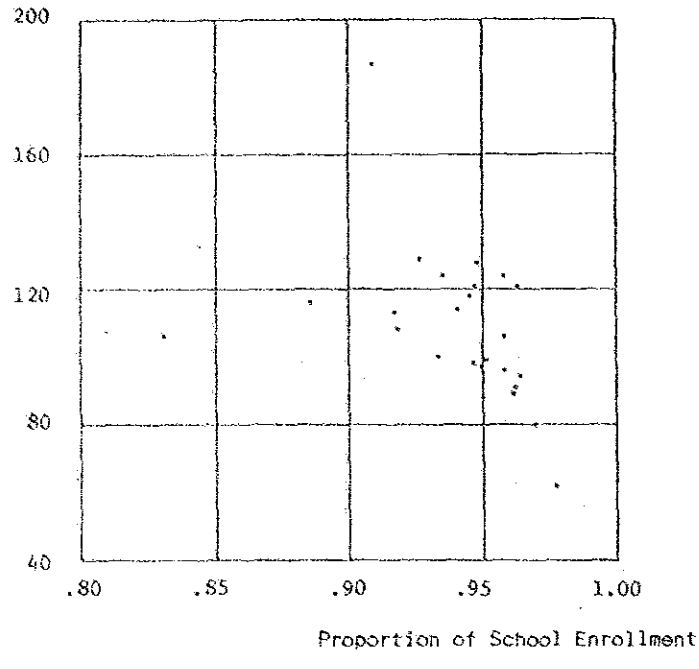
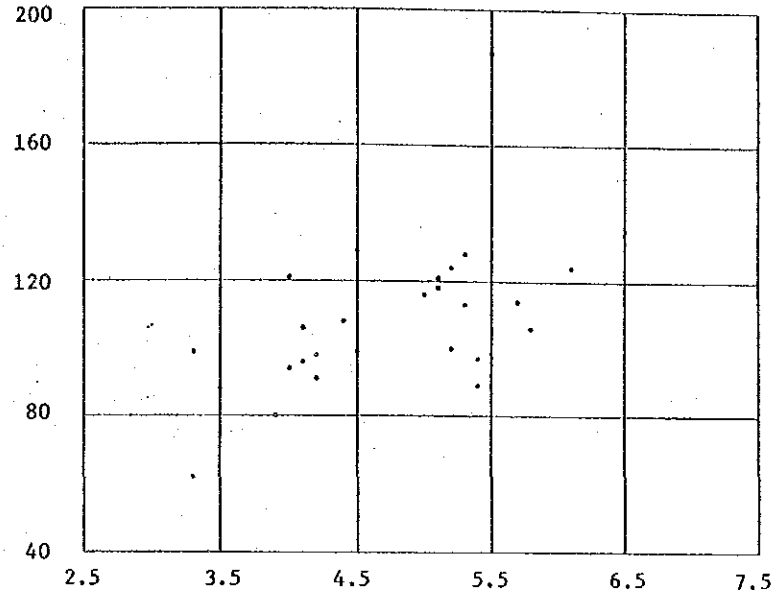


Figure 3

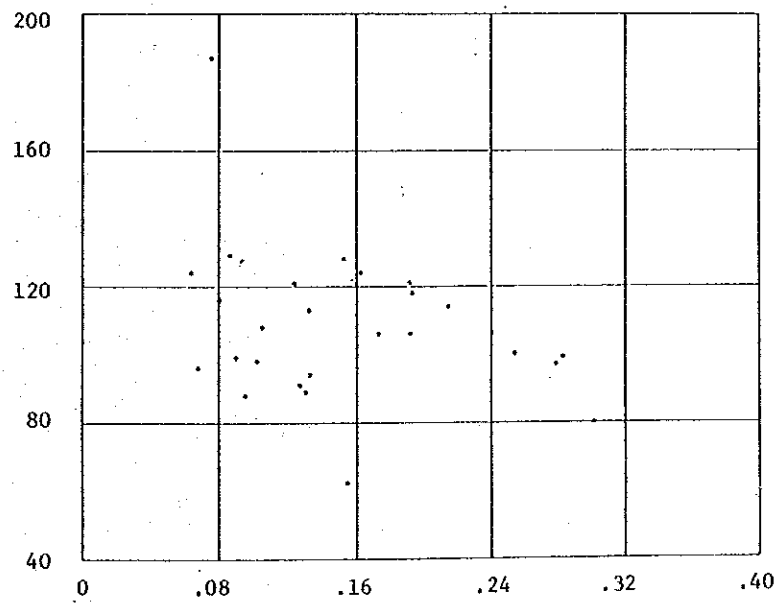
Infant Mortality Rate



Proportion of Inter-Kab/Kod Migrants

Figure 4

Infant Mortality Rate



Total Fertility Rate

The result of a weighted regression is shown in Equation 1 where IMR is regressed on ED, YH, and YIELD. Descriptions of and correlation coefficients among variables are shown in Appendix 1 and Appendix 2. Total population of each province in 1980 is used for weighting. The absolute values of t-statistics are shown in parentheses. In this analysis, only the level of education significantly affects IMR. Higher ED implies lower IMR as is expected. The coefficient of determination is as low as .146 for this specification of the model.

$$IMR = \underset{(3.49)}{392.8} - \underset{(2.28)}{296.4}*ED - \underset{(.77)}{0.002854}*YH - \underset{(.13)}{0.0007303}*YIELD \qquad (1)$$

$$R^2 = .146 \qquad n = 26$$

Equation 2 shows the almost direct correspondence between IMR and life expectancy, EO. We obtained this result mainly because of the way IMR and EO were estimated, and because the infant mortality rate represents the level of general mortality and the increase of life expectancy depends more on the improvement of infant mortality than adult mortality in the beginning of improvement of life expectancy.

$$IMR = \underset{(65.93)}{377.7} - \underset{(47.52)}{5.152}*EO \qquad (2)$$

$$R^2 = .987 \qquad n = 26$$

Since we observe the linear relation between IMR and EO, we have the same implications for life expectancy from the available data. We confirm partly that the economic growth improved condition of our life in terms of infant mortality rate and life expectancy. Further, it can be pointed out further that the improvement of infant and child mortality secured human capital investment by parents into children.

The next demographic component to be considered is fertility. In a static microeconomic mode, a married couple is assumed to decide the number of children to have. Since the supply of children is physically limited but likely to exceed demand, the couple tends to have an incentive to control fertility. One of the difficulties and ambiguities in fertility analysis in connection with economic development is brought about by the nonlinear constraint in a utility maximization model, i.e., quantity and quality of children.

The result of regression analysis is shown in Equation 3, where the proportion of contraceptives users, CU, is regressed on FPC, YIELD, YL, and ED. EPC is assumed to indicate accessibility of family planning clinics and the level of their activities. The estimated coefficient of FPC is positive but not statistically significant. The effect of YIELD and YL on CU is positive and significant. YIELD indicates the productivity of land such that the greater value of YIELD indicates more labor intensive rice production. This implies that people participate in family planning programs when the rice yield is high. The positive effect of YL on CU indicates that, in terms of participation rate, people with lower expenditures intend to limit their family size and depend more on family planning programs. The effect of ED on CU is expected to be positive, but the result shows no significant effect. However, Figure 5 shows a positive relation between the proportion of contraceptives users to the total population in 1980 and the proportion of school enrollment in 1985.

Figure 5

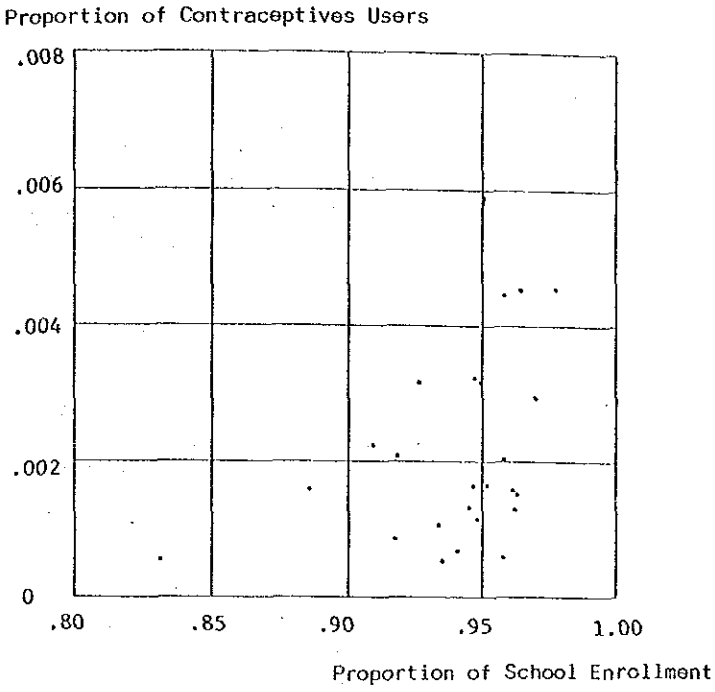
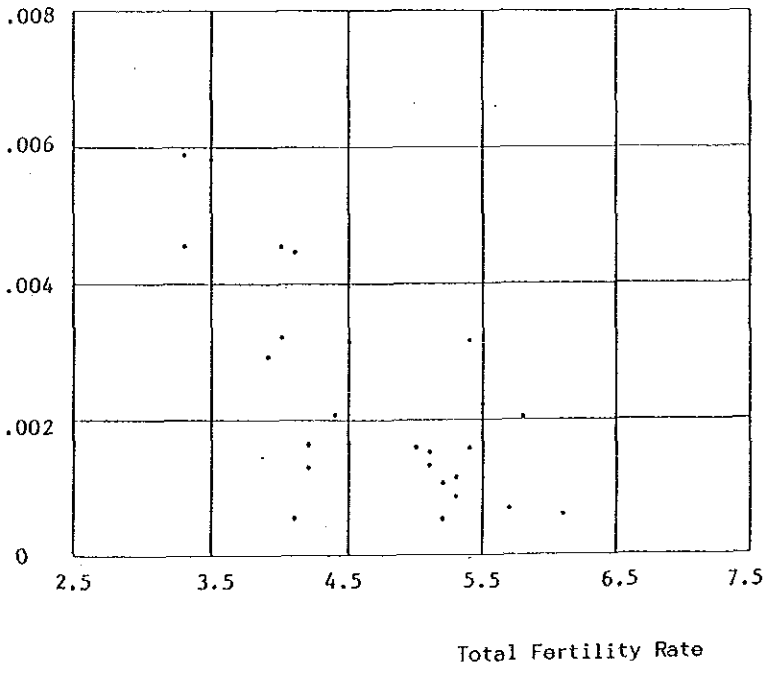


Figure 6



$$CU = \underset{(1.36)}{-7.034} + \underset{(1.30)}{144.8}*FPC + \underset{(5.58)}{.001521}*YIELD + \underset{(2.69)}{.0003650}*YL + \underset{(.69)}{4.199}*ED \qquad (3)$$

$R^2 = .631 \qquad n = 26$

Figure 6 shows a negative relation between the proportion of contraceptive users in 1980 and the total fertility rate in 1980. If contraception is effective, the total fertility rate is expected to be lower. If the demand for children is smaller while fecundity remains unchanged, the excess supply of children would be limited by using contraception. Equation 4 shows that the effect of CU on TFR dominates over other variables, YIELD, YL and ED.

$$TFR = \underset{(.76)}{21.43} - \underset{(4.04)}{4.506}*CU - \underset{(.24)}{.0005015}*YIELD + \underset{(1.88)}{.001541}*YL + \underset{(1.21)}{37.14}*ED \qquad (4)$$

$R^2 = .631 \qquad n = 26$

Furthermore, TFR is regressed on YL, YIELD and IMR. The result of weighted regression analysis is shown in Equation 5. The estimated coefficient of YL is not statistically significant, which seems to reflect that the cost of children is related to the level of income. The negative effect of YIELD seems to reflect that the area is overpopulated in the sense of labor productivity. The effect of ED is positive but not significant, although we expect it to be negative.

$$TFR = \underset{(.25)}{-9.084} + \underset{(.35)}{.0002793}*YL - \underset{(4.86)}{.007525}*YIELD + \underset{(1.67)}{62.89}+ED + \underset{(3.11)}{.1632}*IMR \qquad (5)$$

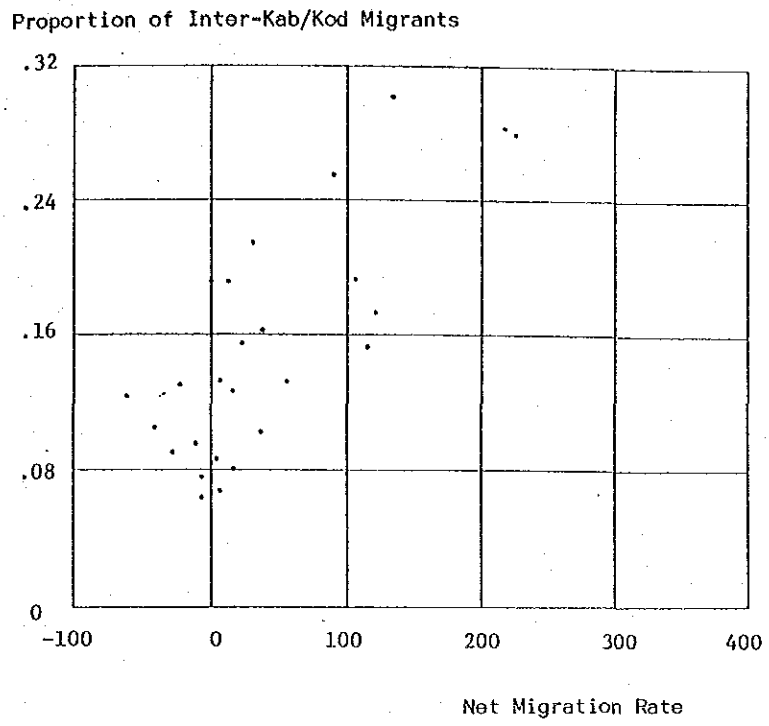
$R^2 = .596 \qquad n = 26$

The last demographic component to be considered is mobility of population. Figure 7 shows a positive relation between lifetime inter-kab/kod migration in 1985 and the net migration rate in 1980. Lifetime migration here means that one has migrated from his birthplace to the current residence at the time of the survey. On the other hand, NMR is defined as a periodical migration rate. Equation 6 shows the result of regression analysis in which LTM regressed on NMR. The elasticity of LTM is estimated 0.201.

$$LTM = \underset{(17.98)}{.1157} + \underset{(8.28)}{.0008084}*NMR \qquad (6)$$

$R^2 = .607 \qquad n = 26$

Figure 7



Finally, NMR is regressed on DI, YIELD, and ED, which gives the result shown in Equation 7. DI attracts people since it creates job opportunities. The negative effect of YIELD seems to reflect population pressure. The effect of YL is not significant. The effect of ED is positive but not significant.

$$NMR = -372.7 + .009735*DI - .06432*YIELD + .005070*YL + 592.2*ED \qquad (7)$$
$$(1.13) \quad (2.58) \quad (3.46) \quad (.49) \quad (1.60)$$

$$R^2 = .385 \qquad n = 26$$

In the above analysis, demographic variables are regressed on economic variables to draw implications of regional differentials in economic and demographic variables based on cross-sectional data from provinces in Indonesia. The result implies that economic development lowers mortality and fertility, and that better job opportunities induce in-migration. Further, analysis in dynamic framework of the model based on time series data would be required to draw policy implications. Economic development and elaborate economic-demographic policy implementation however is necessary to achieve demographic transition and to increase mobility of labor force.

Appendix 1. Definition, Mean and Standard Deviation of Variables

Variable	Definition	Year	Mean	Standard Deviation
IMR[1]	Infant mortality rate	1980	108.0	11.71
CU[2]	Proportion of contraceptives users to the total population (x1,000)	1980	2.311	1.600
TFR[3]	Total fertility rate (x10)	1980	46.96	7.947
NMR[4]	Net migration rate (x10,000)	1971-80	38.35	75.81
ED[5]	Proportion of school enrollment	1985	.934	.045
YH[6]	Proportion of classes whose monthly per capita expenditure is more than 15,000 rupiah (x10,000)	1981	2184.	1270
YIELD[6]	Rice yield per hectare	1980	2360.	861.5
EO[1]	Life expectancy	1980	52.42	4.225
FPC[6]	Family planning clinics per total population (x1,000)	1980/81	.005	.002
YL[6]	Proportion of classes whose monthly per capita expenditure is less than 6,000 rupiah (x10,000)	1981	1858.	1446.
LTM[5]	Proportion of lifetime inter-kab/kod migrants	1985	.154	.067
DI[6]	Approved domestic investment (100 million rupiah)	1980	1069.	2830.

Sources:

1) Kasto, Report on Seminar on Infant Mortality Rate in Indonesia. 1983.

2) Streatfield, K., "A Comparison of Census and Family Planning Program Data on Contraceptive Prevalence, Indonesia". Studies in Family Planning. 16(6). 1985.

3) Dasvarma, G.L., Hull, T.H., and Poedjastoeti, S., "New Fertility Estimates for Indonesia". Research Note No. 13, Department of Demography of the Australian National University, 1984.

4) Table 4 in Chapter XXXX. (Kobayashi).

5) Biro Pusat Statistik, Penduduk Indonesia 1985 Menurut Provinsi. 85(3). 1986.

6) Biro Pusat Statistik, Statistik Indonesia 1983, 1984.

Appendix 2. Correlation Matrix

	CU	TFR	NMR	ED	YH	YL	YIELD	EO	FPC	LTM	DI
IMR	-.364	.573	-.136	-.362	-.322	.281	-.245	-.994	-.102	-.288	-.255
CU		-.716	-.201	.496	-.156	.261	.815	.386	-.119	-.243	.140
TFR			.268	-.154	-.283	.051	-.643	-.562	.166	.151	-.279
NMR				.190	.317	-.323	-.429	.122	.388	.796	.263
ED					.061	-.228	.405	.381	.400	.170	.163
YH						-.774	-.197	.330	.269	.539	.555
YL							.189	-.268	-.459	-.396	-.256
YIELD								.275	-.224	.440	.139
EO									.113	.227	.233
FPC										.370	-.145
LTM											.395

NOTES

1. Lee E. Edelfsen and Samuel S. Lieberman, "Aggregate Data in Economic-Demographic Analysis", in Ghazi M. Farooq and George B. Simmons eds., Fertility in Developing Countries, London: Macmillan, 1985.
2. Robert M. Solow, "A Contribution to the Theory of Economic Growth", Quarterly Journal of Economics, Vol.70, pp.65-94, 1950, and A. K. Dixit, The Theory of Equilibrium Growth, London: Oxford University Press, 1976.
3. John S. Lane, "A Synthesis of the Ramsey-Meade Problems when Population Change is Endogenous". Review of Economic Studies, Vol. 42, pp.57-66, 1975, and Julian L. Simon and Ginter Steinmann, "Population Growth and Phelps' Technical Progress Model", Research in Population Economics, Vol. 3., pp.239-254, 1981.
4. W. Brian Arthur and Geoffrey McNicoll, "Large-Scale Simulation Models in Population and Development: What use to Planners?", Population and Development Review, Vol. 1, pp.251-266.

III. URBANIZATION AND POPULATION PRESSURES

Introduction

Indonesia's urban population grew at the rate of 4.7 percent per annum during 1971-80. Although still only 22.5 percent, concomitant problems and issues associated with urban population are causing concern among Indonesian policy markers and planners. The rate of growth of urban population is composed of the natural addition to city population, of the migration of rural people to urban areas and of the conversion of certain rural areas into urban areas.

It is estimated that the present high rate of population growth throughout Indonesia, which is now 2.3 percent a year, will increase in the future. The high rate of growth of urban areas will require regional governments to manage them, in order that they may direct and control physical growth of towns, overcome the negative impact due to the high rate of flow of rural populations into urban areas, and supply urban public services.

The Government of Indonesia is determined to tackle the problems related to urbanization and has pursued on the formulation of urban policies and plans to ensure the efficiency and welfare of the cities and other urban centers of the country. There is a strong connection between urbanization and the level of a country's economic growth. The relation between them is clear, especially in relation to the employment problems facing by the country.

Economic Growth and Its Impact on Employment*

Economic growth was largely led by the manufacturing sector, accounting for about one-fifth of the annual growth of the seventies, or in other words, a value added of nearly 12% per annum. Clearly the manufacturing sector played an important role in the economic development of Indonesia (see Table 6).

However, it is difficult to assess the manufacturing sector in the overall development of the country. It might be expected that the successful growth of the manufacturing sector was the result of government efforts to attract the private investment through the introduction of foreign and domestic investment laws. With the generous tax holiday and other favourable economic policies for the private sector, multinational companies began operating in Indonesia alongside weaker Indonesian enterprises. As the logical consequence of these trends, investments were directed more toward the capital intensive technology --particularly after 1976. As the main objective was to increase the supply of manufactured goods to the potential domestic market, the structure of the manufacturing establishments was geared toward the import substitution industries.

Although foreign exchange could have been saved by not importing the final manufacturing goods, a different problem arose with the establishment of the new capital-intensive, import substitution industries. The import of raw materials and capital goods for the operation of these industries put new pressure on the Indonesian balance of payments. The needs for foreign exchange increased with the growth of the manufacturing sector. Fortunately, the increasing foreign exchange needs could be covered by the increasing export revenues from the oil sector. Thus, attempting to solve the foreign exchange problem from one side only created another problems, much more serious than the previous one.

The import substitution industries could not be developed without a high wall of protection either through tariff or non-tariff barriers. The "infant industries" arguments become the main consideration for implementing the protection policies in Indonesia. Of course, economic protection has also its by-products -- high-costs of operation either economically or socially. The problems became more severe due to the red-tape bureaucratic system in Indonesia. Due to this situation, the Indonesian Economic Society has labelled the Indonesian economy of the seventies as the "high-cost economy".

Table 6 Gross Domestic Product and Employment by Industrial Origin in Indonesia, 1971-80

Industrial Origin	Gross Domestic Product[a]				Employment											
					Total				Informal Sector[b]				Labour[c]			
	1971 (Rp billion)	1980 (Rp billion)	Annual Growth Rate (%)	Sources of Growth (%)	1971 ('000)	1980 ('000)	Annual Growth Rate (%)	Sources of Growth (%)	1971 ('000)	1980 ('000)	Annual Growth Rate (%)	Sources of Growth (%)	1971 ('000)	1980 ('000)	Annual Growth Rate (%)	Sources of Growth (%)
Agriculture[d]	2,441.0	3,424.9	3.8	17.5	26,179	28,785	1.1	21.8	20,081	24,078	2.0	37.1	6,098	4,707	-2.8	-111.8
Mining[e]	551.0	1,034.6	7.3	8.6	80	360	18.4	2.3	-	186	-	1.7	80	174	40.8	7.6
Manufacturing	490.0	1,704.6	11.9	21.6	2,725	4,686	6.2	16.3	1,264	2,463	7.7	11.2	1,461	2,223	4.8	61.3
Construction	171.0	639.3	15.8	8.3	671	1,648	10.5	8.1	113	602	20.4	4.6	558	1,046	7.2	39.2
Transportation[f]	210.0	609.4	12.6	7.1	948	1,493	5.2	4.5	284	737	11.2	4.2	664	756	1.5	7.4
Others[g]	1,681.7	3,756.4	9.3	36.9	8,883	14,521	5.6	47.0	4,459	8,898	8.0	41.2	4,424	5,623	2.7	96.3
Total	5,544.7	11,169.2	8.1	100.0	39,486	51,493	3.0	100.0	26,201	36,964	3.9	100.0	13,285	14,529	1.0	100.0

a: At 1973 constant prices.
b: Employment in the informal sector consisted of self-employed, employers, family workers, and others.
c: Employees, mostly in the formal sector.
d: Farm food crops, farm non-food crops, estate crops, livestocks and products, forestry and fishery.
e: Including quarrying.
f: Including communication.
g: Electricity, gas & water supply, wholesale & retailtrade, building & other financial intermediaries, ownership of dwelling, public administration & defence, and services.

Sources: Central Bureau of Statistics, National Income of Indonesia: Main Tables (Jakarta: several issues), Nota Keuangan dan Rancangan Anggaran Pendapatan dan Belanja Negara Tahun 1985/1986 (State Budget 1985/1986), and the employment figures were recalculated from Central Bureau of Statistics, Population of Indonesia: 1971 Population Census (Jakarta 1975) and Population of Indonesia: Results of the 1980 Population Census (Jakarta, 1973) -- see Hendra Esmara, Perencanaan dan Pembangunan di Indonesia (Planning and Development in Indonesia)(to be published).

The high-cost economy, however, not only occurred in the manufacturing sector, but also spread to the other economic sectors including agriculture. With the high-cost structure, the Indonesian agricultural and manufacturing goods could hardly compete in the international markets; export of these commodities sharply declined. The increased revenue from the oil exports, however, remedied the balance of payments problems, apart from the massive foreign aid (loans) secured in the seventies.

The industrialization policy for the Indonesian economy was a double-edged sword. On the one hand, high industrial growth could be maintained as long as the oil sector could support the high-cost operation of the economy. On the other hand, the system would collapse and would not be able to continue in the uncertainties of the future world economy.

The impact of the world recession on the Indonesian economy was deeply felt in 1982. The high economic growth of 8.1 percent in the seventies could not be maintained anymore -- and it sharply declined to the level of 2.2 percent in 1982. The blow was mostly felt by the manufacturing sector, showing a sharp decline in the value added growth of 12 percent in the seventies to 1.2 percent in 1982. The oil sector could not escape the impact of the recession either, as reflected in the sharp decline of the export revenue. The situation became worse with the decrease of the exports of non-oil commodities. The huge foreign exchange reserves -- mostly accumulated from the 1979/80 oil price increase -- and foreign aid, helped sustain the Indonesian economy during this period. A new set of economic policies were then introduced in 1983: foreign exchange devaluation, rescheduling of development projects, regulation of the banking system and activating the export of the non-oil commodities[2].

The performance of the manufacturing sector in the seventies should be seen in light of the development of the post-seventies period. The shaky high-cost, import substitution industries were in deep trouble with decreasing export revenues -- particularly oil revenues -- after 1982. Excessive economic protection bought the development of the manufacturing sector out of proportion.

Efforts to change the "inward looking," domestic-consumption-oriented industries to "outward looking" export-oriented ones were further complicated by the uncompetitiveness of the commodities due to the high costs of operation. However, the government tried to reduce the costs, especially the "invisible" bureaucratic costs, by reorganizing customs procedures throughout the country. The drastic policy change of the Indonesian customs officials into export consultants occured in 1985. Since then, the overly protected, import substitution industries have faced a new situation with their protection being gradually lifted.

The growth of manufacturing industries in the seventies tended to use modern capital intensive technology. The reason for choosing technology over employment was obvious: The growth of employment -- which was estimated to be around 3.0 percent per annum -- was far behind economic growth in the seventies. Although the growth of employment seems to be higher than the growth of the labour force, however, the high labour absorptive activities were mostly concentrated in the informal sectors -- rural farms, small scale and household industries, seasonal labour, petty traders and other activities[3]. (See Table 7.)

Although it was difficult to trace the growth of employment in the informal sector, the population census give some indication using employment figures by statuses -- self-employment, employer, employee, and unpaid family workers. Employees can be considered as in the formal sector workers, with some minor adjustments, since the census defined the employees as "persons who work for another person or an institution for pay in cash or in kind. Agricultural workers[4], although they do not have specific supervisors, are classified as employees ...." .

Employees are those working in the modern sector, such as "...,Government employees, employees of state/private companies. Hotel employees, servants..."[5]. Employees are usually more organized compared to the other statuses: self-employed, employer and unpaid family workers, the latter group being considered as informal workers.

Table 7 Distribution of Gross Domestic Product and Employment by Industrial Origin in Indonesia, 1971-1980

	Gross Domestic Product[a]		Employment					
			Total		Informal Sector[b]		Labour[c]	
	1971	1980	1971	1980	1971	1980	1971	1980
Agriculture[d]	44.0	30.7	66.3	55.9	76.7	65.1	45.9	32.4
Mining[e]	9.9	9.3	0.2	0.7	-	0.5	0.6	1.2
Manufacturing	8.8	15.3	6.9	9.1	4.8	6.7	11.0	15.3
Construction	3.1	5.7	1.7	3.2	0.4	1.6	4.2	7.2
Transportation[f]	3.8	5.4	2.4	2.9	1.1	2.0	5.0	5.2
Others[g]	30.4	33.6	22.5	28.2	17.0	24.1	33.3	38.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

a: At 1973 constant prices.
b: Employment in the informal sectors consisted of self-employed, employers, family workers, and others.
c: Employees, mostly in the formal sector.
d: Farm food crops, farm non-food crops, estate crops, livestocks and products, forestry and fishery.
e: Including quarrying.
f: Including communication.
g: Electricity, gas & water supply, wholesale & retailtrade, backing & other financial intermediaries, ownership of dwelling, public administration & defence, and services.
Sources: see Table 10.

Using this approach, almost 90 percent of the growth of employment in the seventies originated in the informal sector. At the same time, the informal sector did not receive as much attention as the formal one. Almost all economic facilities provided by the government and the banking system, such as the tax holiday and financial credits, hardly reached the informal sector. As this sector has been able to absorb unskilled labour much more easily than the modern formal sector, the informal sector became the source of employment for the Indonesian labour force -- particularly in the rural agricultural areas and household, cottage, and small-scale industries. As a result of this development, the annual growth of employment in the informal sector -- 3.9 percent -- was much higher than the growth of employment in the formal sector -- 1.0 percent.

Although employment creation through the informal sector temporarily relieved employment pressure to a certain extent, it created some other dramatic problems. Firstly, mostly unskilled workers were absorbed by the informal sector and their productivity tended to be low, in some activities declining rapidly. Secondly, the informal sector tended to create an army of unorganized poor workers. This situation could not be avoided due to the low productivity of the workers. Although efforts were made by SPSI (All Indonesian Labour Union) and the Ministry of Manpower to set up a minimum wage system, it did not affect the unorganized informal workers. Thirdly, the limited inter-island mobility of the informal sector workers put more pressure to the already densely populated island of Java.

The movement of workers from the informal to the formal sectors seem to be too difficult

either due to limited employment opportunities or because of the different characteristics of the industries. By using more modern capital intensive technology, the need for labour seems to be low. At the same time the skill requirements for operating these industries are high compared to the level of education of the average Indonesian workers.

Growth of the Cities

Over the next 69 years or so, Indonesia is faced with a doubling of its present population, even more so in urban areas. In 1980, 65% of the country's 147 million people lived on Java, at an average density of 727 persons per square km. The others were spread over the remaining 93% of its territorial expanse, at an average density of 30 persons per square km. Further breakdowns show that a total of 32,8 million people lived in functional urban areas in 1980, that was 22% of the nation's total population. About 40% of these urban dwellers lived in metropolitan areas (urban population greater than one million) and large cities (500,000 to one million) and another 20% lived in medium size cities (100,000 to 500,000).

Java had both the highest level of urbanization (25%) and the highest concentration in large and metropolitan cities (50% in cities above one half million). On Sumatra, the urban population accounted for 20% of the total and only 37% lived in cities larger than one half million. With the exception of Kalimantan (21% urban), urban shares in the rest of Indonesia were comparatively low (12%-15%). Only one city in those regions (Ujung Pandang) was larger than one half million. As might be expected given regional economic patterns, most of Indonesia's cities are located on Java. Java accounts for 62% of the 43 cities with populations of 100,000 or more. Among the non-Java cities of 10,000 or more, almost half are located on Sumatra.

Looking more deeply to the relation between urbanization and growth of the cities, Table 8 summarizes data since 1920.

Table 8 Trend of Urbanization and Growth of Urban Population 1920-1980

Characteristic	Census Year					% rate of growth per annum			
	1920	1930	1961	1971	1980	1920-1980	1930-1961	1961-1971	1971-1980
Urban Population	2.981.576	4.034.149	14.358.372	20.465.377	32.845.769	3.42	4.13	3.61	5.4
Rural Population	46.418.424	56.690.457	82.660.457	98.674.687	113.930.705	2.02	1.23	1.78	1.47
Urban (%)	5.8	6.7	14.8	17.2	22.4	1.46	2.59	1.51	2.93
Rural (%)	94.2	93.4	85.2	82.9	77.6	-.09	-.3	-.28	-.75
Total Population	49.300.000	60.727.333	97.018.829	119.140.064	146.677.474	11	1.53	2.01	2.3
Ratio of Urban/ Rural	062	081	174	207	288	2.71	2.94	1.76	3.78

Source : Central Bureau of Statistic, Population Census, 1961, 1971 and 1980.

From the table it can be seen that urban population has almost tripled during the period of 1920-1980. In the period of 1961-1971 the urbanization rate was relatively lower than the rate of growth of population, but not for the 1971-1980 period. The proportion of people living in rural areas, which was relatively high in the early period, decreased with a rate of less than 0.30 percent in the period of 1920-1971. Only in the 1971-1980 period was there a high of

decrease, around 0.78 percent per annum on average.

There is a tendency for several large cities to keep growing larger, and then form so-called metropolitan cities. The capital, Jakarta, for example, has long been the largest city in the Southeast Asian region with an estimated 7 million people in 1984. It is expected to become one of the largest cities in the world within the next fifteen years, if it continues to grow at its present rate. The present living and working conditions of Jakarta and other large and small cities of the country leave a great deal to be desired and further growth of these cities will pose formidable problems of urban management, finance and provision of services.

Growth of cities with population of 100,000 and over from 1930 to the recent census of 1980 can be seen in Table 9.

Table 9 Cities with Population of 100,000 and Over in Indonesia, 1930-1980

Province	City	Population in Thousand				Rate of Growth		
		1930	1961	1971	1980	1930-61	1961-71	1971-80
DKI	DKI Jakarta	533.0	2 973.1	4.579.3	6 503.4	4,34	4,46	3,93
West Jawa	Bandung	166.8	972.6	1 200.4	1 462.6	4,58	2,15	2,20
	Bogor	t	154.1	195.9	247.4	t	2,45	2,60
	Cirebon	t	158.3	178.5	223.8	t	1,22	2,51
DI YOGYA	Yogyakarta	136.6	312.7	341.6	398.7	3,97	0,90	1,71
East Jawa	Surabaya	341.7	1 007.9	2 120.3	2 027.9	4,03	4,48	2,95
	Malang	86.6	341.4	422.4	511.7	4,45	2,17	2,13
	Kediri	48.5	158.9	178.9	221.8	4,45	1,20	2,39
	Madiun	t	123.4	136.1	150.6	t	1,00	1,11
Central Jawa	Semarang	217.8	503.2	646.6	1 026.7	3,93	2,57	5,21
	Surakarta	163.0	367.6	414.3	123.5	3,94	1,21	1,39
	Pekalongan	t	102.4	111.2	132.6	t	0,84	1,95
	Tegal	t	89.0	105.8	131.7	t	1,76	2,44
	Magelang	t	96.5	110.3	123.5	t	1,36	1,25
Sumatera	Medan	76.6	479.1	635.6	1 378.9	4,86	2,90	8,88
	Pematang Siantar	15.5	114.9	129.2	150.4	5,94	1,20	1,68
	Padang	53.1	143.7	196.3	480.9	4,26	3,20	10,35
	Jambi	22.9	113.1	158.6	230.4	5.16	3,09	4,07
	Palembang	108.1	475.0	583.0	787.2	4,48	2,09	3,36
	Tg.Karang/Tl.Bt	52.2	133.9	199.0	284.3	4,21	4,08	4,00
	Pekanbaru	t	70.8	145.0	186.3	t	7,51	2,79
Kalimantan	Pontianak	45.2	150.2	217.6	304.8	4,48	3,81	3,77
	Banjarmasin	65.7	214.1	281.7	381.2	4,37	2,81	3,38
	Balikpapan	t	91.7	137.3	280.7	t	4,16	8,17
	Samarinda	t	69.7	137.8	264.7	t	7,12	7,44
Sulawesi	Ujung Pandang	84.9	384.2	434.8	709.0	4,57	1,26	5,52
	Manado	27.5	129.9	170.2	217.2	5,02	2,76	2,71

Note : t : no growth
rate of growth in percentage was computed using formula of : $P = P_o (1+r)^t$

Source : Computed from Central Bureau of Statistic, Population Census, 1961,1971 and 1980 (L series No. 2)

Impact of Urbanization

The urbanization process can not be separated from the development process. One opinion holds that the appearance of urbanization process is a sign of activities in economic development through the commercialization of rural economic activities and the growth of economic activities in urban sector[6]. On the other hand, others believe that urbanization occurs because of benefits from agglomeration due to concentrated economic activity in urban areas, which in turn pushes urbanization further[7].

Regardless of the cause, the impact of urbanization greatly affects the life of urban dwel-

lers. Some of the consequences as explained in the beginning of the discussion are increasing unemployment and the role of informal sector in the cities. One impact of high urbanization is un employment among migrants to the cities. When this occurs, one of the negative consequences is an additional number of slum areas. The high unemployment rate in urban areas is one of the reasons for high income inequality, especially in cities of high population density. Using Susenas 1980 (National Social-Economic Survey 1980), the Central Bureau of Statistic computed the distribution of income in urban and rural areas. The results are presented in Table 10. Excepting Jakarta, the income level per capita per month for urban areas on Java are lower than Sumatra, Kalimantan and Sulawesi. High income inequalities are also found on Java. From Table 10, it is seen that rural areas have relatively more equal distribution than urban areas. Several exceptions occur in areas outside Java.

Table 10 Income Per Capita and Income Distribution for Urban and Rural Areas, 1980

PROVINCE	URBAN		RURAL	
	Monthly per capita (Rupiahs)	GINI coefficient	Monthly per capita (Rupiahs)	GINI coefficient
Java				
DKI Jaya	16,475	0.35	.....	....
Java Barat	11,220	0.34	7,400	0.27
Java Tengah	9,314	0.35	5,529	0.27
DI Yokyakarta	12,606	0.40	5,992	0.29
Java Timur	9,965	0.36	5,645	0.30
Sumatra				
Aceh	16,702	0.29	11,615	0.30
Sumatra Utara	12,753	0.32	8,987	0.24
Sumatra Barat	15,440	0.27	9,804	0.27
Riau	13,665	0.26	10,052	0.24
Jambi	12,755	0.26	10,358	0.20
Sumatra Selatan	12,023	0.25	11,221	0.24
Bengkulu	15,938	0.32	9,947	0.24
Lampung	10,220	0.28	7,036	0.27
Sulawesi				
Sulawesi Utara	12,733	0.34	8,796	0.32
Sulawesi Tengah	13,265	0.28	8,791	0.28
Sulawesi Selatan	10,485	0.29	6,875	0.28
Sulawesi Tenggara	11,120	0.27	6,717	0.26
Kalimantan				
Kalimantan Barat	13,365	0.25	11,136	0.27
Kalimantan Tengah	17,067	0.29	11,691	0.25
Kalimantan Selatan	17,189	0.33	9,600	0.23
Kalimantan Timur	16,190	0.32	13,104	0.31
Bali	9,606	0.33	6,047	0.24
Nusa Tenggara Barat	9,082	0.36	5,823	0.28
Nusa Tenggara Timur	10,796	0.33	6,290	0.33
Maluku	13,058	0.30	9,757	0.36

Source: Central Bureau of Statistic, SUSENAS 1980.

In the case of urban services such as housing, hospitals/health centers, schools, electricity and drinking water, the problem faced by urban administrators is budget limitations for these services. The problem becomes more severe since government gives priority to equality in distribution of the funds. Consequently, limited funds are allocated equally disregarding size and importance of the cities. If the urban services were financed by funds collected by the provinces, then cities outside Java would be "poorer" than urban centers in Java. In this connection, the flow of migrants from cities outside Java to cities on Java would be tremendous.

The lack of social services in urban areas, especially on Java, also creates other social problems. Social and political conflict may arises from the inequality of social services provided in the cities. Therefore, it seems that the impact of urbanization is not merely economic, but also social and political.

An Illustration on Policy Formulation

In the course of economic development the structure of employment shifts from a heavy emphasis on agriculture to a larger role for industry and tertiary activities. During this process, rural-urban links need to be strengthened and incomes of rural dwellers raised by increased off-farm employment opportunities and increased circulation of labor between rural and urban areas bordering the cities.

In cities appropriate support is needed for small entrepreneurs, especially those starting new enterprises, and for the informal sector, which inevitably plays a major role in providing employment. This can help to solve the problem of unemployment in cities.

While experience shows that direct control of urban growth, bans on location of industrial plants in large cities, or support for "growth-poles" tend to be ineffective and distorting, the policy of establishing "intermediate cities" still can serve as "filters" for the urbanization process and as centers for new economic activities.

In more broad and philosophical ways the policy concerning urbanization should follow a certain framework[8] which is:

a. Build a city that people can afford. This means that a city government needs to strive to *provide services and opportunities at affordable cost to a large majority* of the urban population including its poorer segments and that the cost should be covered by the beneficiaries so as to permit provision of such services to all.
b. Build a city that the physical environment can afford. Taking into consideration the carrying capacity of the urban environment, new technologies must be sought to absorb the environmental shock of high density living in large cities at low cost, especially as regards sanitation.
c. Build a city that the social-environment can afford. Considering the ethnic, religious, professional and age characteristics of urban population, develop and integrated living space which offers a human face for the city dwellers, especially the predominant younger generation.

NOTES

*) This part is a revised version based on: Prijono Tjiptoherijanto, Some Notes on Human Resources Development in Indonesia, paper presented at the 13th International Training and Development Conference, Asian Regional Training & Development Organization (ARTDO), Jakarta, September 22-25.

1) For a detailed analysis of the 1983 Indonesian economic *policies, see Hendra Esmara,* Perencanaan dan Pembangunan di Indonesia (Planning and Development in Indonesia) Jakarta PT Gramedia, 1986, Chapter 1.

2) Ibid.

3) The informal sector term was introduced for the first time in International Labour Office, Employment, Incomes and Equality: A Strategy for Increasing Productive Employment in Kenya (Geneva : 1972).
4) Central Bureau of Statistics, Population of Indonesia : Results of the 1980 Population Census (Jakarta : 1983), Series No. 2, p.xxxvii.
5) Ibid.
6) Michael Todaro, "A Model of Labor Migration and Urban Unemployment in Less Development Countries" American Economic Review 59, No. 1 (March 1969).
7) Koichi Mera, On the Concentration of Urbanization and Economic Efficiency, Economic Department Working Paper, Washington D.C., 19870.
8) Kartomo Wirosuhardjo (eds.) Urbanization and Urban policies : Lessons Learned from East and South-East Asian Experience, A Conference Report, the State Ministry of Population and Environment, RI, Jakarta, 1986.

APPENDIX 1 Percentage of Population in Urban Areas by Province, 1971 and 1980

No.	Province	1971	1980
1.	D. I. Aceh	8.4	8.9
2.	Sumatra Utara	17.2	25.5
3.	Sumatra Barat	17.2	12.7
4.	Riau	13.3	27.2
5.	Jambi	29.0	16.7
6.	Sumatra Selatan	27.0	27.4
7.	Bengkulu	11.7	9.4
8.	Lampung	9.8	12.5
	Sumatra	17.1	19.6
9.	DKI Jakarta	100	93.7
10.	Java Barat	12.4	21.0
11.	Java Tengah	10.7	18.7
12.	D. I. Yogyakarta	16.3	22.1
13.	Java Timur	14.5	19.6
	Java	18.0	25.1
14.	Bali	9.8	14.7
15.	Nusa Tenggara Barat	8.1	14.1
16.	Nusa Tenggara Timur	5.6	7.5
17.	Kalimantan Barat	11.0	16.8
18.	Kalimantan Tengah	12.3	10.3
19.	Kalimantan Selatan	26.6	21.4
20.	Kalimantan Timur	39.1	39.9
	Kalimantan	20.3	21.5
21.	Sulawesi Utara	19.5	16.8
22.	Sulawesi Tengah	5.6	9.0
23.	Sulawesi Selatan	18.1	18.1
24.	Sulawesi Tenggara	6.3	9.3
	Sulawesi	16.1	15.9
25.	Maluku	13.3	10.9
26.	Irian Jaya	100	21.4
	INDONESIA	17.3	22.4

Source: Central Bureau of Statistics, Population Censuses 1971 and 1980.

APPENDIX 2 Gross Domestic Regional Product Per-Capita by Province, 1971 and 1980 (in thousand rupiah)

No.	Province	1971 *)	1980
1.	D. I. Aceh	28.1	256.2
2.	Sumatra Utara	40.0	130.9
3.	Sumatra Barat	25.9	82.2
4.	Riau (dengan minyak bumi)	193.0	730.2
	Riau (tanpa minyak bumi)	40.6	98.3 **)
5.	Jambi	44.1	98.6
6.	Sumatra Selatan (dengan minyak bumi)	62.1	187.2
	Sumatra Selatan (tanpa minyak bumi)	47.7	153.0
7.	Bengkulu	25.9	90.3
8.	Lampung	27.3	81.2
9.	DKI Jakarta	72.2	264.6
10.	Java Barat	21.7	97.0
11.	Java Tengah	21.5	69.1
12.	D. I. Yogyakarta	22.3	68.2
13.	Java Timur	25.6	89.2
14.	Bali	29.6	112.5
15.	Nusa Tenggara Barat	13.6	52.4
16.	Nusa Tenggara Timur	13.0	57.2
17.	Kalimantan Barat	28.6	106.3
18.	Kalimantan Tengah	37.1	118.7
19.	Kalimantan Selatan	32.4	121.2
20.	Kalimantan Timur (dengan minyak bumi)	79.8	878.1
	Kalimantan Timur (dengan minyak bumi)	72.1	307.5
21.	Sulawesi Utara	36.0	119.3
22.	Sulawesi Tengah	16.4	73.8
23.	Sulawesi Selatan	23.1	92.6
24.	Sulawesi Tenggara	28.9	79.1
25.	Maluku	30.7	118.9
26.	Irian Jaya	28.8	229.3

*) By the current prices.

**) Jambi figure is for 1979, since 1980 data is not available.

Source: Regional Income for Provinces in Indonesia, 1969-76 and 1976-80, Central Bureau Statistics.

APPENDIX 3 Percentage of Gross Domestic Regional Product from Industrial and Agricultural Sectors by Province, 1971 and 1980

No.	Province	Industry		Agriculture	
		1971 *)	1980	1971 *)	1980
1.	D. I. Aceh	10.6	2.5	61.7	18.2
2.	Sumatra Utara	7.6	7.0	43.6	35.8
3.	Sumatra Barat	5.4	12.8	56.4	35.4
4.	Riau (dengan minyak bumi)	3.0	3.2	7.2	4.1
	Riau (tanpa minyak bumi)	-	5.4	-	29.3 **)
5.	Jambi	9.5	7.6	51.1	50.8
6.	Sumatra Selatan (dengan minyak bumi)	18.2	24.6	26.2	24.6
	Sumatra Selatan (tanpa minyak bumi)	-	21.6	-	29.8
7.	Bengkulu	1.5	1.5	56.9	46.8
8.	Lampung	6.5	8.0	55.7	46.3
9.	DKI Jakarta	8.1	12.9	4.4	1.6
10.	Java Barat	10.1	10.3	51.7	29.3
11.	Java Tengah	15.6	10.4	50.1	40.4
12.	D. I. Yogyakarta	15.0	9.4	36.6	39.3
13.	Java Timur	13.3	15.0	49.6	36.6
14.	Bali	2.7	4.5	56.0	42.0
15.	Nusa Tenggara Barat	1.1	2.0	58.8	51.8
16.	Nusa Tenggara Timur	2.2	3.3	66.2	60.4
17.	Kalimantan Barat	11.4	13.8	56.0	40.9
18.	Kalimantan Tengah	1.2	8.9	65.8	42.4
19.	Kalimantan Selatan	4.5	2.9	46.3	31.5
20.	Kaltim (dengan minyak bumi)	4.7	4.5	37.0	7.2
	Kaltim (tanpa minyak bumi)	-	1.5	-	20.7
21.	Sulawesi Utara	8.7	3.2	45.4	46.3
22.	Sulawesi Tengah	0.9	2.1	66.3	51.5
23.	Sulawesi Selatan	4.6	4.0	54.2	48.8
24.	Sulawesi Tenggara	0.4	0.9	47.1	36.4
25.	Maluku	1.0	0.6	68.0	47.7
26.	Irian Jaya	1.8	0.8	56.3	27.4

*) By the current prices.

**) For Jambi figure is for 1979, since data for 1980 is not available.

Source : same appendix 2.

CHAPTER X
LABOUR FORCE AND EMPLOYMENT

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I. POPULATION AND LABOUR FORCE

1. Size and Increase of Population and Labour Force

The enormous population and its continuing rapid growth are the yoke of economic development of Indonesia, the fifth most populous nation in the world after China, India, the U.S.S.R. and the U.S.A. Her population incurs the threat of unemployment and underemployment, as well as unsatisfied needs for food, clothing, housing, medical care, educational facilities and other basic human necessities. The challenge which Indonesia now faces is how to take full advantage of the abundant human resources and create an active labour force to sustain development.

Only three population censuses have been conducted in Indonesia since World War II, in 1961, 1971 and 1980.[1] The coverage and definitions differed among them as shown in Table 1. Generally, the 1980 census was the most improved and more reliable than the others.

The census population of Indonesia increased from 96 million in 1961 to 118 million in 1971, and reached 147 million in 1980.

Table 1 Population Censuses of Indonesia

	1961	1971	1980
1) Date of Reference	Oct. 1-31	Sept. 6 - Oct. 4	Oct. 6-31
2) Sampling	unknown	3.8%	5.0%
3) Geographical Coverage	All Indonesia except Irian Jaya (estimated)	All Indonesia, except Irian Jaya and Timor Timur	All Indonesia, except Timor Timur
4) Definition of Employment	Working for income on the enumeration date or at least two months during last six months	Working for income or profit (or helping in same) for at least two days in the week prior to the enumeration date. Included "employed" but temporarily not working.	Working for income or profit (or helping in same) for at least one hour in a day in the week prior to the enumeration date. Included "employed" but temporarily not working.

Table 2 The Population of Indonesia 1961-2000 (unit: thousand)

	(1) simple estimation	(2) logistic estimate A	(3) World Bank & Dept. of Labour estimates	(4) logistic estimate B
1961	96,318 (a)	94,237	97,019 (f)	96,097
1965	104,631 (b)	104,103	-	106,237
1970	116,037 (b)	117,462	-	119,545
1971	118,459 (a)	120,269	119,233 (f)	122,275
1975	130,579 (c)	131,941	-	133,371
1976	133,804 (c)	134,968	131,797 (f)	136,180
1980	147,490 (a)	147,490	146,777 (f)	147,490
1985	162,841 (d)	164,022	165,154 (g)	161,654
1990	179,789 (d)	181,411	183,457 (g)	175,611
1995	197,530 (e)	199,500	202,746 (g)	189,126
2000	217,023 (e)	218,099	222,753 (g)	201,993
Stulation level		485,452		300,000
Turning point		(2007)		(1981)

Note: (a) census statistics
(b) interpolation with assumed annual growth rate of 2.09%
(c) interpolation with assumed annual growth rate of 2.47%
(d) extrapolation with assumed annual growth rate of 2%
(e) extrapolation with assumed annual growth rate of 1.9%
(f) World Bank, Employment and Income Distribution in Indonesia July 1980
(g) estimated by Payaman (logistic estimation (nonlinear least square method))

A: estimation with free upper limit

$$\text{population} = \frac{485452}{1+4.2832776\exp(-0.03127740t)}$$

B: estimation with assumed population limit of 300,000 (thousand)

$$\text{population} = \frac{300000}{1+2.2036597\exp(-0.03783267t)}$$

General Formula

$$P = \frac{Pmax}{1 + a\ \exp(-bt)}$$

In Table 2, three different estimates of Indonesian population are shown. The World Bank estimated it at about 165 million for 1985, while our own estimation falls between 162 million and 165 million as seen in column (1) and in column (3). Column (1) presents our own simple interpolation for the period 1961-1980 and extrapolation for the period 1980-2000, by using the 1961, 1971 and 1980 censuses as bench marks. We used the actual average growth rate of 2.09% and 2.41% for the periods of 1961-1971 and 1971-1980, respectively, and assumed planned growth rate of 2% and 1.9% for 1985- 1990 and 1990-2000, respectively.

Column (2) presents an estimation by the logistic curve method. This method, in which we

fixed the population of 1980 at 147 million as the bench mark, the Indonesian population is predicted to increase slightly faster than in the case of column (1). The rate of population increase is expected to accelerate until the year 2007. The saturation point of the Indonesia population is estimated as 485 million by the logistic curve method of column (2), although the method does not tell when saturation will occur.

Column (3) shows World Bank estimates for 1961-1980 and extrapolation by Payaman. The estimated population of 1985 is 165 million, which is larger than other estimates in Table 2.

There are two serious questions on the future trends of the Indonesian population. First, is the population growth of Indonesia being accelerated further? By applying the logistic curve method as shown in the column (2) in Table 2, we found that there might be some point when the population growth rate slows in the forseeable future. If we use the logistic curve "without saturation constraint", we forecast the turning point to be 2007.

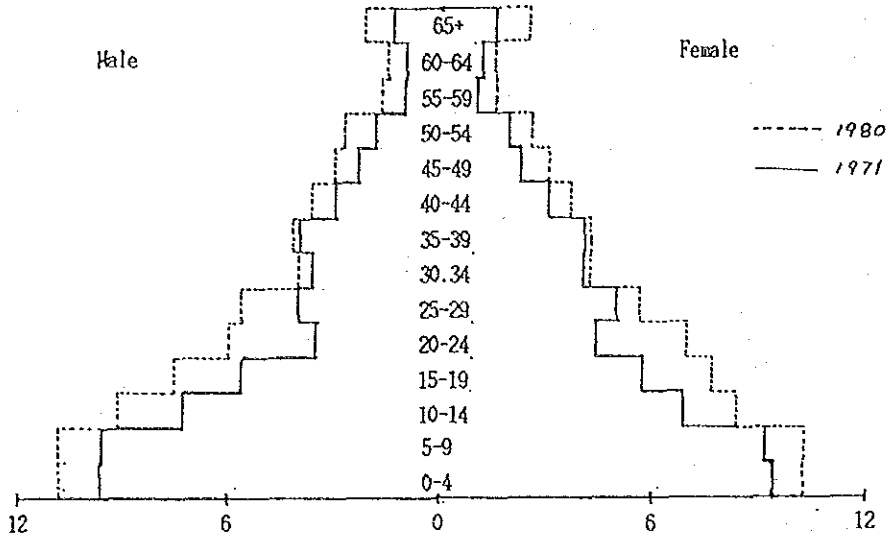
The second question: Can we draw a scenario of the time path of population growth, if we set a target of maximum level? In order to answer this question, we experimented with planning population growth toward an assumed target level. In column (4) of Table 2, we tentatively set the target as 300 million in the year 2000, and calculated the responsible path toward the goal by using the "logistic curve with a given upper limit". As seen in column (4), if Indonesia wants to limit her population to 300 million, the population should be controlled at 175 million, 189 million and 201 million for the years 1990, 1995 and 2000, respectively. This means that annual population growth rate should be controlled at 1.7%, 1.5% and 1.3% for the periods 1985- 1990, 1990-1995 and 1995-2000, respectively.

2. Age Structure

The age structure of the Indonesian population is relatively young. The 14-year old and younger group comprised 40.4% share of the total population in 1980. Including the school age group of 15-19, the "young generation" of 0-19 was 50.9% of the total population. This rather large young segment of the population requires great community support, and poses a serious problem as far as satisfing basic human needs. For example, the infant group of 0-4 need good nutrition and medical care to survive and grow properly. They numbered an alarming 22.4 million or 15.1% of the total population in 1980. The school-age group of 5-19 years old was a staggering 52.8 million or 35.7%, for whom educational facilities are most neccesary. Moreover, the young people who belong to the 15-19 age group need employment, the most serious problem in Indonesia.

The age structure of Indonesia is subject to dynamic transformation in the foreseeable future with decreasing fertility and more rapidly decreasing mortality. It will shift steadily, but slowly toward a more aged structure with a larger labor force. To illustrate the transition of the Indonesian age structure, Figure 1 presents the so-called "population pyramid" or age structure histograms for 1971 and 1980. One may find some inconsistencies in Figure 1, mostly because of uncertainty due to sensuses; for example, the male 30-34 age group of 1971 seems to have not decreased until 1980 and appears to be almost the same number as the male 40-44 group in 1980 which should have otherwise decreased by natural death rate. This suggests an impossible case, namely, that the motality of this age group was about zero between 1971 and 1980. Despite such inconsistencies, Figure 1 shows the general tendency of the dynamic transition, that there was an increase in every age group, especially among the age group of the labour force.

Figure 1 Population Pyramid (unit: million)



The Central Bureau for Statistics of Indonesia estimated the age structure of Indonesian population for the year 2000, as shown in Table 3. The share of children, 0-14, is expected to decrease from 40.4% in 1980 to 34.2% in 2000, though the absolute number will increase from 59.6 million in 1980 to 75.2 million in 2000. The burden for providing the basic human needs to this age group will continue to be quite large in 2000. The 15- 19 age group is expected to increase from 15.5 million of 1980 to 22.5 million of 2000. Considering the increasing school enrolment ratio in the coming 20 years, the needs for the educational facilities might call for a larger efforts than present. The major labour force age group, 20-59 years old, is forecasted to increase from 64.8 million of 1980 to 108.2 million in 2000. It will be a most difficult task for Indonesia to absorb such a huge number of workers in the coming 15 years until 2000.

The dynamic transformation of the structure of Indonesian population is also seen in the sex ratio, or female/male ratio, as shown in Table 3. The number of females is larger than that of males, i.e. the sex ratio is larger than 100. It was 107.0 for total population in 1971 and decreased down to 101.2 in 1980. It is noteworthy that the sex ratio is less than 100 for the child groups aged 0-4, 5-9 and 10-14 years old, and reversed above age 15. It suggests that the mortality of female children of 0-14 years of age is relatively higher than that of male children. From this evidence one may expect, in the long-run, that the sex structure of Indonesian population might turn from the "excess-female" structure toward a more balanced one, if the mortality of the adult male group is improved.

Table 3 Age Structure of Indonesian Population, 1980

Age Group	1980 (thousand)	1980 (%)	2000 (thousand)	2000 (%)
0-4	22,381.6	15.1	26,645.1	12.0
5-9	19,759.6	13.4	25,460.8	11.4
10-14	17,551.7	11.9	24,131.0	10.8
15-19	15,514.7	10.5	22,585.8	10.1
20-24	13,971.0	9.4	20,991.1	9.4
25-29	11,403.1	7.7	18,882.2	8.5
30-34	8,926.2	6.0	16,552.2	7.4
35-39	8,274.9	5.6	14,432.6	6.5
40-49	13,864.0	9.4	23,065.5	10.4
50-59	8,642.0	5.8	14,665.0	6.6
60+	7,751.1	5.2	15,401.2	6.9
Total	148,040.0	100.0	222,753.0	100.0

Source: Indonesian Population Projection 1980-2000, Central Bureau of Statistics, Indonesia, 1983.

Table 4 Male-Female Ratio

	1971	1980
0-4	98.5	95.6
5-9	97.0	96.2
10-14	94.2	92.7
15-19	101.9	103.0
20-24	123.9	117.3
25-29	124.2	101.5
30-34	115.4	104.1
35-39	101.0	105.0
40-44	100.7	101.8
45-49	93.7	104.5
50-54	103.1	101.0
55-59	98.8	97.5
60-64	115.0	109.1
65+	110.1	116.8
Total	107.0	101.2

Source: Population Census 1971 & 1980

3. Geographical Distribution

The Indonesian archipelago consists of four major islands of Java, Sumatra, Kalimantan and Sulawesi, and several thousand other islands. The population is uneven among these islands. About 92.5% of the people live on the four major islands. Inter-island population distribution is shown in Table 5. About 62% of the population is on Java and about 19% on Sumatra. Such heavy concentration on Java and a limited part of Sumatra is posing urban poverty problems such as inadequate housing, congestion, sanitation and other public welfare issues. On the other hand, the remainder of Indonesia is scarcely populated, under developed and stagnant because of the lack of population.

Table 5 Geographical Distribution of Indonesian Population

Island	1971 (thousand)	(%)	1980 (thousand)	(%)
Java	76,029.6	64.2	91,269.5	61.9
(Outside Java	42,338.2	35.8	56,220.8	38.1
Sumatra	28,801.2	17.6	28,016.2	18.9
Kalimantan	8,523.5	7.2	10,409.5	7.0
Lesser Sunda Isles	5,152.6	4.4	6,723.1	4.6
Bali	4,490.7	3.8	5,461.8	3.7
Maluku	2,210.1	1.8	2,469.9	1.7
Irian Jaya	1,089.5	0.9	1,411.0	1.0
East Timor	-	-	554.4	0.4
Total	118,367.8	100.0	147,490.3	100.0

Source: 1. Population Census 1971, Serial D, Table 03
2. Population Census 1980.

Note: "-" denotes "unknown".

Table 6 Population Density of Major Islands (1980)

	Percentage Total Population	Percentage Total Area	Population Density/Km^2
Sumatra	19.0	24.7	59
Java	61.9	6.9	690
Kalimantan	4.6	28.1	12
Sulawesi	7.0	9.8	55
All other	7.5	30.5	8
Total	100.0	100.0	77

Source: Statistik Indonesia 1983.

In Table 6 the percentages of population, land, and population densities of the major islands are shown. Java, which has only 6.9% of total land, is populated by 61.9% of the total population, thus having highest density with 690 persons per square kilometer. In DKI Jakarta there are 11,023 persons per square kilometer. In the rest of Indonesia population density is low at 25 persons per square kilometer. On Irian Jaya, density is only 3 persons per square kilometer.

Many efforts have been made to distribute the population, e.g., the transmigration program and the Inter Regional Labour Placement (AKAD). However, successful transmigrations has been few and almost insignificant in comparison with the annual population increase of about 2 million on the island of Java.

Table 7 shows the results of three transmigration programs conducted so far. In the first program, 1950-72, 100,000 households were planned to migrate from Java, but only 4,550 families actually moved. In the second program (1969/70-1978/79), an improvement was achieved; about 27,000 families and 110,000 persons migrated during this boom period, especially those in oil-related jobs, induced by the rapid increase of oil prices. The third program of 1979/80-83/84 has strongly encouraged transmigration. Since the early half of the third program period, 57,200 families with 292,000 persons have transmigrated. Until 1983/84, it is estimated that altogether about 100,000 families with 420,000 persons have moved, although this achievement is still negligible considering the overpopulation in Java.

Experience in the past has revealed that the transmigration programs are, in fact, too expensive and inefficient. They invite many technological, economic, social and political problems. Specifically, they require cultivation of new planned areas, road construction, housing, schools, water supply, and other infrastructure. Expenses paid to attract more Javanese workers to come to the outer islands and prepare for new settlement are becoming a heavy burden on the Indonesian budget. In addition to such efforts to encourage transmigration between Java and outer islands, emigration to foreign countries such as Malaysia, Thailand and Saudi Arabia, is occuring, which compromises the effort of the transmigration program. The Indonesian transmigration policy is just on the edge of reform or termination.

Table 7 Performance of Transmigration Program

		First	Second		Third	
		1950-72	1969/70-1973/74	1974/75-1978/79	1979/80-1982	1979/80-1983/84
Number of People	Target	417,500	181,700	376,900	2,100,000	1,169,000
	Actual	18,900	36,300	75,380	420,000	292,000
Number of Households	Target	100,000	46,100	87,800	500,000	286,000
	Actual	4,550	9,200	17,560	100,000	57,200

Source: Arndt,H.W.,"Transmigration: Achievements, Problems, Prospects", Bulletin of Indonesian Economic Studies, Dec., 1983

4. Labour Force and Employment

The employment problem is serious in Indonesia and seems to be worsening. The core problem is

how to mobilize the discouraged and reticent population which is "not willing to work" or "not actively looking for job". Secondly, jobs must be created absorb the underemployed and disguised/hidden unemployed.

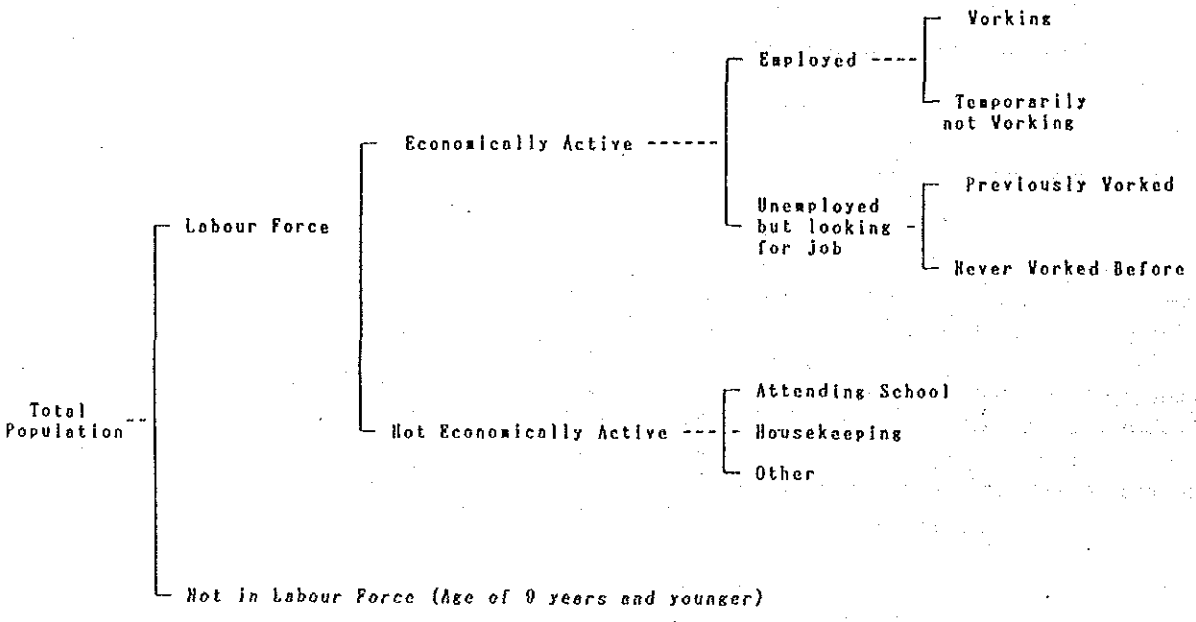
4.1 Negligible Unemployment and Huge Underemployment

Before discussing the above-mentioned core issues of the Indonesian employment, we have to consider the curious fact that the "unemployment" is negligible judging from official census statistics. By the 1980 population census, the ratio of "unemployment" in the total labour force was only 0.83%, and the ratio of "temporarily not working" was 2.7%. These figures are incredibly small compared to other LDCs and industrialized countries.

This phenomenon stems from definitions used by the Indonesian population census which are briefly summarized below. The labour force in Indonesia is defined as the age group of ten years and older, and is classified into several categories as shown in Figure 2.

A person in labour force is defined as "economically active" if he is working or looking for job. One is classified as "working" if he worked for income or profit (or helped in same) at least one hour in the week preceeding the census enumeration date. One is classified as "temporarily unemployed" if he is not at work because he is ill, on leave, on strike, waiting for customers for certain professions, or if he is a farmer or agricultural worker waiting for harvest time and/or the rains, etc. An economically active person is defined as "looking for work" if he did so during the week preceeding the enumeration date. One who is not working, but is looking for work is classified as "unemployed". The category of "unemployed" is sub-classified into two groups: namely, (1) those who have "never worked" and seek work for the *first time in life*, and (2) those who "previously worked", but are not working during the enumeration period although looking for work.

Figure 2 Categories of Labour Force



The "not economically active" labour force is classified into three sub-categories: namely, "attending school", "house keeping" and "others", depending on their main activities.

Table 8 presents the 1980 census data of the classified labour force for the categories which are shown in Fig. 2. The potential "labour force" of Indonesia totaled 104,352,000 in 1980. Of the total labour force, 52,421,000 or 50.2% were "economically active", and the remaining 51,931,000 or 49.8% were "not economically active".

Of the 52,421,000 economically active, 50,135,000 (95.6%) were "working", 1,418,000 (20.7%) were "temporarily not working" and only 868,000 (1.65%) were "unemployed."

Table 8 Labour Force (10 Years of Age and Over) by Type of Activity, 1980

(Unit: 1,000 persons)

	Economically Active						
	Employed			Unemployed but looking for job			
	Working	Temporarily not working	Total employed	Previously worked	Never worked	Total Unemployed	Total
Urban	9,546	180	9,726	76	199	275	10,001
Male	6,763	115	6,878	59	129	188	7,066
Female	2,783	65	2,848	17	70	87	2,935
Rural	40,589	1,238	41,827	340	253	593	42,420
Male	27,131	609	27,740	164	128	292	28,032
Female	13,458	629	14,087	176	125	301	14,388
Indonesia	50,135	1,148	51,553	416	452	868	52,421
Male	33,894	724	34,618	223	257	480	32,098
Female	16,241	694	16,935	193	195	388	17,323

(continued)

	Not Economically Active					
	Attending School	House-Keeping	Others	Total	Total	Percentage Economically Active to the Total Population
Urban	6,140	5,355	2,594	14,089	24,090	41.5
Male	3,391	115	1,380	4,486	11,952	59.1
Female	2,749	5,240	1,214	9,203	12,138	24.2
Rural	12,631	16,821	8,390	37,842	80,262	52.9
Male	6,971	413	3,934	11,318	39,350	71.2
Female	5,660	16,408	4,456	26,524	40,912	35.2
Indonesia	18,771	22,176	10,984	51,931	104,352	50.2
Male	10,362	528	5,314	16,204	51,302	68.4
Female	8,409	21,648	5,670	35,727	53,050	32.7

Source: Population Census, 1980.

Elements above were used to determine the participation rate (or labour force utilization rate) and the unemployment rate. The participation rate, or the ratio of "working" to the total labour force is 48.0%, the ratio of "temporarily not working" is 2.7%, and the ratio of "unemployed" is only 0.83%. Two different ratios of participation and unemployment were shown above: firstly, the ratios to the total economically active labour force as the denominator, and secondly, the ones to the total labour force as the denominator. Of course, the former gives larger ratio than the latter. Usually the latter is adopted to indicate the participation rate and unemployment rate, but in the Indonesian population census the former is adopted. Therefore, the official Indonesian unemploy ment rate is said as 1.65% (or about 1.7%) rather than as 0.83%. It is still a small figure compared to normal levels of unemployment.

4.2 Why Underemployment?

Such an incredibly small rate of unemployment raises a serious question --- is the unemployment problem truly so negligible in Indonesia? One answer can be found in the definition itself. As explained above, the category of "working" is defined as one who worked for income or profit at least one hour in the week preceeding the census date, and the "temporarily not working" is defined as one who was not at work though looked for it under the same condition. Conceivably a sizable number of underemployed who had succeeded in working only for one hour a day, might have been included in the categories of either "working" or "temporarily not working." It is a well- recognized paradox that "unemployment" is an important headline, actually and theoretically, in industrialized countries, while it is not a major problem in developing countries. It would be more correct to say that the measured open unemployment is low in the developing countries such as Indonesia. On the other hand, in reality in the developing countries the problem of underemployment or disguised unemployment is more serious.

In Table 8, a substantial part of the "working" and "temporarily not working" labour force is considered to be underemployed. Table 9 gives a distribution of hours worked. If we tentatively define the underemployment as those who worked for 34 hours or less in a week, it can be clearly observed from Table 9 that 50.5% of the female work force and 29.7% of male work force are underemployed.

Table 9 Percentage of Employment by Hours Worked, 1980

Hours Worked /Week	Male	Female	Total
0	2.1	4.1	2.8
1-9	2.4	5.1	3.3
10-24	13.2	25.9	17.4
25-34	12.0	15.4	13.1
35-44	29.6	24.1	27.8
45-59	27.0	14.6	22.9
60+	0.8	1.5	1.0
Total	100.0	100.0	100.0

Source: Population Census 1981, Series S-2.

Another question, --- why are people underemployed rather than unemployed in Indonesia? In more precise words, why is the measured open unemployment generally so low and underemploy ment so high? Employment in Indonesia assumes other forms: traditionally, work tends to be shared in Indonesia partly because of the chronic shortage of job opportunities and partly because of the tradition of egalitarian distribution of income. Every bit of income must be pooled in the family income to support the basic human needs of the family as a whole. Therefore, most individuals who have the ability and willingness to work cannot afford the luxury of unemployment. The core group which is supporting the family income by working their underemployment jobs is the age group of 30-59 and 15-29 as shown in Table 10.

Table 10 Underemployment by Age Group and Hours Worked, 1980
(Unit: thousand persons)

	Hours Worked			
	0-9	10-24	25-34	Total
Ages 10-14	234	734	254	1,222
Ages 15-19	383	1,216	771	2,370
Ages 20-24	378	1,064	869	2,311
Ages 25-29	366	1,003	880	2,249
Ages 30-59	1,441	4,122	3,478	9,041
Ages 60+	298	825	511	1,634
Total	3,100	8,964	6,763	18,827

Source: Population Census 1981, Series S-2.

Thus, the most serious problem for the Indonesian develop ment is how to create jobs for the huge numbers of underemployed. The problem will be further analysed in section 2.

4.3 Problem of Discouraged and Reticent Work Force

In addition to the problem of measured open unemployment and underemploynment, the Indonesian labour force includes huge number of "reticent" or "discouraged" people. "Discouraged" workers are defined as those who have dropped out of the economically active labour force because they have given up on finding job opportunities. They do not appear in the unemployment statistics by definition because they do not look for work. Nevertheless, a sizable number of discouraged workers does exist and poses a serious problem in Indonesia.

There seem to be four reasons why some people do not actively seek jobs. Firstly, some do not to look for jobs because they are not willing to work because, for example, they believe that they can live without working, or because they do not know the concept of work. Secondly, some are reticent to look for job because of fatalism --- they believe it absolutely hopeless to look for a job. Sometimes they remain outside the workforce because they believe that they are ranked as an undesirable or ineligible candidate, on the basis of age (too young or too old), sex (usually female), education (not educated or low level education), family background, health, and other criteria. Thirdly, some are not actively seeking work because they have relatively higher labour supply curves. For example, if one belongs to a family with relative advantage, e.g. relatively rich (although still poor in absolute sense), or having a relatively high position in the traditional social hielarchy, he may have a higher reservation price of his labour and be more demanding in the type of employment which he would find acceptable. Fourthly, those who have higher levels of education may also have a higher reservation price for

their labour and be particular about acceptable jobs.

The first ("innocent to work") and second ("fatalist") groups can be cultivated and transformed into more active workers in the long run, especially by diffusion of general education and social modernization. Traditionally, there have been such arguments that these "innocence" and "fatalism" have deep roots in a non-western way of thinking and, therefore the modernization and education in the sense of Western culture will have little effect on these reticent workers in the less developed countries. Nevertheless, it has been observed that these types of discouraged workers, innocents and fatalists, have been rapidly decreasing in every developing countries as industrialization and modernization proceed.

The third group, or "higher reservation price with relative advantage", is difficult to attract into the active labour force. But, in the long run their higher reservation prices are expected to tend to be exceeded by the surrounding income levels, and, hence, their standard of living may also be exceeded by those surrounding. If so, they may finally be stimulated to work.

The last group of the reticent people, or "higher reservation price with higher level of education", is another hard-core group of "discouraged workers." The more the country becomes industrialized, the more the general educational level tends to shift upwards, and the "discouraged workers" with higher education tend to increase. This is mostly because the modern industries do not absorb as much labour as expected. On the contrary, if a country develops modern industries with higher and more sophisticated technology, the absorption of labour tends to diminish. Most of the developing countries, including Indonesia, have created sizable numbers of such discouraged workers with higher education. Recently, in some developing countries, a new symptom has emerged --- these discouraged workers with higher education who previously did not look for job are looking for job. In other words, they are becoming "open unemployed", rather than the "discouraged not-in-labour force." The figures for open unemployment are still low in Indonesia as seen in Table 8, but it is quite possible that the figure of "unemployed" includes large numbers of such "unemployed with higher education." In the foreseeable future, as the modernization of Indonesia proceeds, the problem of "discouraged reticent workers with higher education" will change into that of "open unemployed with higher education."

5. Education Level

The level of education in Indonesia is still low, and hence causes low productivity of labour especially in the industrial sector. Around 17.3 million people in the age group of 10-44 years old, or 33.1% of the total labour force, are still illiterate, though the iliteracy is increasing rapidly. About 11.5% of the people in the 7-12 year-old school age group have never attended school. Even though the rate of enrollment is rising, the rate of attendance is still low; many students drop out. Some 34.5 million people, or 66.2% of the Indonesian labour force, have not completed primary school.

Another serious problem is the gap that exists between the educational sector and the industrial manpower sector. Firstly, general education in the primary and secondary school level is unsatisfactory in quantity and quality for what is needed in the industrial sector. The modern industries need such basic qualities in labour as literacy, discipline, work ethics, sense of organized man, basic knowledge and ability of language, algebra and so on, all of which can be cultivated in general education in the primary school level. These basic factors are essential to make vocational education effective. Secondly, vocational education does not guarantee that graduates are ready and eligible for jobs, partly because of the inefficiency of vocational schools and partly because of the aforementioned insufficiency of general education.

In 1981/82 there were only 117 vocational junior high schools with some 73,000 students. At the same time there were 11,640 general junior high schools with some 3.7 million students. There were only 2,291 vocational senior high schools with 717,500 students and 3,378 general

senior high schools with 1.3 million students.

University graduates (bachelor's and master's degree holders) have only increased from about 200,000 persons (0.5% of total labour force) in 1971 to 449,300 persons (0.9%) in 1980 as shown in Table 11. As explained above, the number of job seekers are increasing, especially the graduates of senior high schools and holders of bachelor's and master's degrees from certain faculties.

In the long run, technology is expected to change rapidly, and the conventional vocational education which has been designed to meet current technological demand will be obsolete before long. As technological progress is accelerated, such systems of vocational education will become more and more costly. Four key issues are discussed in this regard.

Fistly, it should be noted that the most fundamental faculty that is required for workers to adapt to the rapidly changing technology is general education. To adapt to the rapid change of technology, general and flexible ability of understanding and inference is essential. And, such abilities are cultivated a the well-designed "general education" before vocational education. This point used to be over looked by developing countries. But, they should now be aware that the difference in adaptability and efficiency of the workforce between developed and developing countries is really due to the difference in quality of general education.

Table 11 Manpower According to Education

Level of Education	1971 (thousand)	(%)	1980 (thousand)	(%)
Never attended school	17,604.4	42.7	15,121.7	29.0
Non-graduates of primary schools	11,772.7	28.5	19,364.5	37.2
Graduates of primary schools	9,005.8	21.8	11,441.4	22.0
General junior high schools	1,136.5	2.8	2,095.8	4.0
Vocational junior high schools	529.5	1.3	622.4	1.2
General senior high schools	506.1	1.2	1,278.9	2.4
Vocational senior high schools	506.0	1.2	1,735.9	3.3
Bachelor's degree	99.3	0.2	252.5	0.5
Master's degree	101.0	0.3	196.8	0.4
Total	41,261.3	100.0	52,109.9	100.0

Source: Population Census 1971 and 1980

Secondly, vocational education has to be continuously upgraded to adapt to the rapid change of technology. At present, the institutions and systems of vocational education seem rather stable and static, and have been disregarded. Continuous efforts to rehabilitate and rennovate the institutions, systems and equipments are necessary with vocational education in Indonesia.

Thirdly, the management training becomes more and more important as industrialization proceeds. In most of the Asian developing countries like Indonesia, in the early stages of industrialization the burden of management has been taken by limited local elites who usually joined with Chinese-oriented capitalists and foreign direct investment from Japan, the United States and other Western countries. If Indonesian industries are to proceed further in the rapidly changing technology and world economy, it is essential and important to foster indigenous management. Hence, it is urgent to organize a system of management education in Indonesia.

Fourthly, initial and current costs of vocational education tend to increase. The cost of physical facilities and technology software are especially high. Since education has long been regarded as a on-profit creating activity, it is usually financed by public funds and, sometimes, by foreign official grants. But the rapidly increasing need for the well-educated workers reveals more clearly who benefits from the vocational education and who should undertake the burden of financing these systems. Private enterprises are expected to participate in providing training facilities and know-how, hardware and software, not only to meet the needs of enterprises themselves, but also to upgrade the quality of the national labour force.

II. INDUSTRIAL DEVELOPMENT AND EMPLOYMENT PROBLEMS

1. Dualistic Structure of Employment

The dualistic theory of economic development originated by A.W. Lewis '67' involves the concept of the modern or urban sector and traditional or rural sector, and has been central in the main many development studies. Most practical efforts to industrialize less developed countries have been based on the idea of "dualism", in the belief that modern industries can absorb an unlimited supply of labour which migrates from the rural sector, working at subsitent wages allowing modern enterprises to plow back their surpluses at substantial rates.

In fact, the assumption of dualism seems to be consistent with such reality as rural poverty, rural-urban migration and low-wage employment in the urban sector. In Indonesia as a whole, 114.1 million people, or 77.6% of the total population live in rural sector and 32.8 million, or 22.4% lived in the urban sector in 1980, as shown in Table 12. In Java, the most populous main island, the rate of urbanization is relatively high, 25.1%, but the island still has a substantial rural sector population (74.9%). On other islands, the urban sector ratio is low, 12% to 20%.

Table 12 Urban-Rural Population Distribution, 1980

(Unit: million)

	Urban	Rural	Total	Urban (%)
Sumatra	5.5	22.5	28.0	19.6
Java	22.9	68.4	91.3	25.1
Kalimantan	1.4	5.3	6.7	21.4
Sulawesi	1.7	8.7	10.4	15.9
All Other	1.3	9.2	10.5	12.4
Indonesia	32.8	114.1	146.9	22.4

Source: IBRD, Indonesia: Urban Services Sector Report, Vol. 1, June 25, 1984.

If we look at the labour force, rather than the total population, the dualistic structure of Indonesia is more clear (see Table 13). The island of Java, which accounts for more than two-thirds of the Indonesian labour force contains 21.6% of the urban sector labour force, while the degrees of urbanization of the labour force varies from 10.1% on other islands up to 15.9% on Kalimantan.

Table 13 Inter-Island Distribution of Labour Force
Age 10 and Over, 1980 (Unit: thousand)

	Urban	Rural	Total	Urban (%)	Rural (%)
Sumatra	1,407	8,098	9,505	14.8	85.2
Java	7,142	25,884	33,026	21.6	78.4
Kalimantan	390	2,062	2,452	15.9	84.1
Sulawesi	421	2,531	2,952	14.2	85.8
All Other*	366	3,252	3,618	10.1	89.9
Indonesia	9,726	41,827	51,553	18.8	81.2

Source: Population Census 1980, Series S-2, Table 40.1-9.
* Includes Bali, NTB, Maluku and Irian Jaya.

Table 14 Employment by Main Industry, 1980
(Unit: 1,000)

	Employed			Ratio of Industry			Ratio Urban vs. Rural	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Urban	Rural	Total	Urban (%)	Rural (%)	Total (%)	Urban	Rural
Agriculture	898	27,936	28,834	9.2	66.8	56.0	3.1	96.9
Mining	99	288	387	1.0	0.7	0.7	25.6	74.4
Manufacturing	1,362	3,318	4,680	14.0	7.9	9.1	29.1	70.9
Public Utilities	41	25	66	0.4	0.1	0.1	62.1	37.9
Construction	544	1,113	1,657	5.6	2.7	3.2	32.8	67.2
Trade	2,405	4,274	6,679	24.8	10.2	13.0	36.0	64.0
Transport/Comm.	732	737	1,469	7.5	1.7	2.8	49.8	50.2
Financial Service	212	90	302	2.2	0.2	0.6	70.2	29.8
Public Services	3,345	3,800	7,145	34.4	9.1	13.9	46.8	53.2
Others/Unstated	88	246	334	0.9	0.6	0.6	26.3	73.7
Total	9,726	51,533	51,533	100.0	100.0	100.0	18.9	81.1

Source: Population Census 1980, Series S-2, Tables 47.7-9.

Employment by main industry is shown for both sectors in Table 14. The major source of employment in the rural sector is agriculture, which accounts for 66.8% of the total labour force in the rural sector. Service industries, including trade (10.2%) and public service (9.1%), are another major source of rural employment. Though rural manufacturing (7.9%) is not negligible, it is mostly traditional manufacturing such as local food processing, handicrafts and so on. On the other hand, the urban employment structure presents a different picture. The major sources of employment in the urban sector are public service (34.4%), trade (24.8%) and manufacturing (14.0%). Even in the same classification of industry, the actual type of job might be different between the two sectors. For example urban manufacturing is mainly modern and large-scale, while rural manufacturing is mostly indigenous and small. Similarly, urban trade includes a variety of modern business, while rural trade includes indigenous, small-scale and self- employed petty traders. Including manufacturing, transportation and communications, and construction, five major urban industries account for 86.3% of urban employment. Of course, substantial informal emplyment should be included in the urban labour force, as will be discussed in the next section.

The relative importance of the urban sector versus the rural sector in terms of employment by industries is shown in columns (7) and (8) in Table 14. Although urban employment accounts for only 18.9% of total employment, it is the most likely place of employment for the financial service industry, 70.2%, public utilities, 62.1%, transportation and communications, 49.8% and public services, 46.8%. Surprisingly, only 29.1% of manufacturing employment is located in the urban sector. However, if we consider the fact that 62.2% of the total manufacturing employment is household/cottage industry and 18.4% is small scale , the predominancy of rural manufacturing employment is more understandable.

Table 15 Urban-Rural Employment Stataus, 1980

	Urban	Rural	Total	Urban (%)	Rural (%)	Total (%)
Self-Employed	2,242	10,919	13,161	23.1	26.1	25.5
Self-employed Assisted by Family Member/ Temporary Help	1,236	12,220	13,456	12.7	29.2	26.1
Employer	301	598	899	3.1	1.4	1.7
Employee	5,325	9,312	14,547	53.8	22.3	28.2
Family Worker	643	8,555	9,198	6.6	20.5	17.9
Not Stated	69	223	292	0.7	0.5	0.6
Total	9,726	41,827	51,553	100.0	100.0	100.0

Source: Population Census 1980, Series S-2, Table 48.3, 48.6 and 48.9.

Table 15 presents employment status. More than half of the Indonesian labour force is self-employed. Including unpaid family workers, 69.5% of the total labour force are working for themselves or their family. Only 28.2% are employees, temporary or permanent. Employers ac-

count for only 1.7% of the total labour force. Employment status differs drastically between urban and rural sectors. Urban workers are far more likely to be employees, 53.8%, than rural ones, 22.3%. On the contrary, rural labour force are more likely to be classified as self-employed, 26.1%, or self-employed with assistance of unpaid family workers, 29.2%, or unpaid family workers, 20.5%.

The rural population tends to migrate to urban areas, and, hence, the urban population grows faster than the rural population. Table 16 shows the total labour force increased by 37% or 13.9 million during the period 1971-80: an average of 1.5 million workers entered the labour force annually. In the same period that the urban labour force increased by 83.7% the rural sector rose only 29.4%. Given that population growth rate is almost same in the two sectors, the difference is explained by the rural-urban migration.

Table 16 Employment by Sex and Location, 1971-80

(Unit: thousand, %)

	1971	1980	Percent Change 1971-80	Annual Growth 1971-80
Urban	5,294	9,726	83.7	7.0
Male	3,894	6,878	76.6	6.5
Female	1,400	2,848	103.4	8.2
Rural	32,334	41,827	29.4	2.9
Male	21,662	27,740	28.3	2.8
Female	10,712	14,087	31.5	3.1
Indonesia	37,628	51,553	37.0	3.6
Male	25,516	34,618	35.7	3.4
Female	12,112	16,935	39.8	3.8

Source: Population Census 1971, Series D.
Population Census 1980, Series S, No.2.

2. Informal Sector

In developing countries unfavorable tendencies emerge as the industrialization proceeds, many of which have not been anticipated by the dualistic development theories. Firstly, the absorption rate of labour in modern industries has been revealed to be smaller than expected. Modern industries are not efficiently absorbing the great supplies of labour which migrate from the rural sector. The new immigrants from the rural sector who failed to find jobs constitute the urban informal sector. Secondly, the wages in modern industries are increasing rapidly, bringing serious income differentials between workers in that sector and the large number of workers in the urban informal sector. Thirdly, the rural-urban migration tends to concentrate into major cities. Generally speaking, in southeast Asian countries, major cities are confronting a serious problem of a rapidly expanding urban informal sector and slums; Jakarta is not an exception. Fourthly, the factors which stimulate rapid increase of rural-urban migration are not explained by conventional rural-urban theories. Traditionally migration was

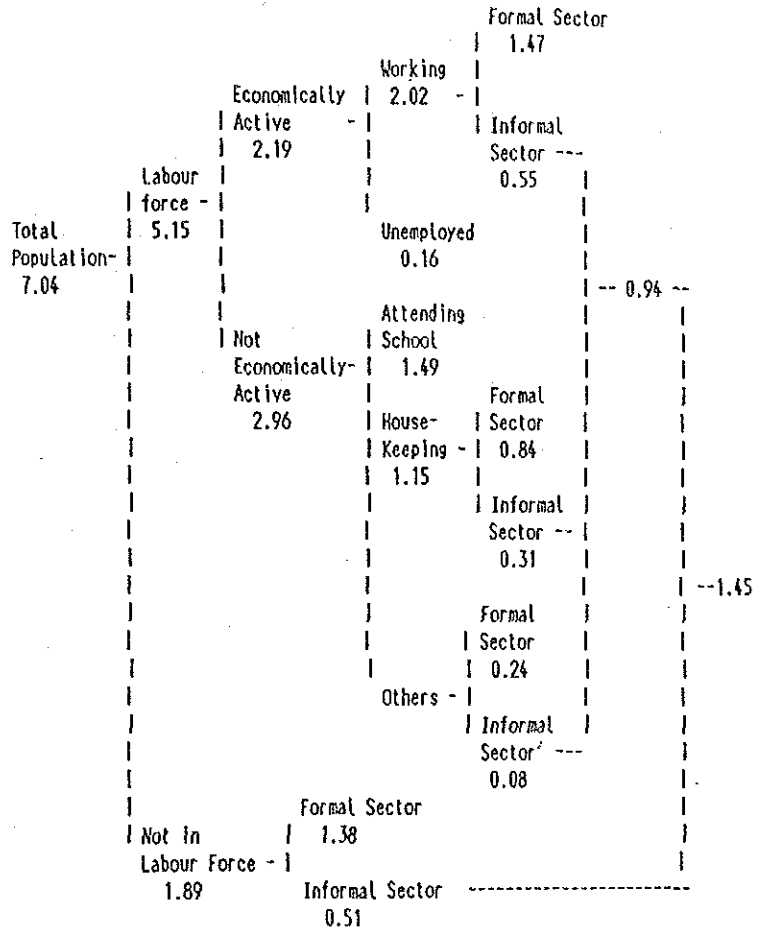
thought to be caused by income differences between rural and urban areas, but, in reality, rural people seem to leave their village for other reasons. Recent studies by Hayami[1981], Torii[114] reported that the rural people were leaving their village because they lost their land, tenancy or share of crops. In addition, the illusion of an attractive urban life pulls them toward cities.

In 1973 the term "Informal Sector" was first used by Hart[1973] in his study on Ghana's urban poverty. Since then, intensive efforts to shed light on the various aspects of the urban informal sector have been made by ILO, World Bank and other institutions as well as by individual researchers. Iskandar conducted a comprehensive survey on urban poverty in Jakarta, Suravaya and Bandun[55], and estimated Jakarta's urban informal labour force at 50% of its total labour force in 1971. Grimes[46] estimated the urban informal labour force in Jakarta in 1971 as 26% of the total labour force. Sethuraman[97] conducted a field survey in Jakarta concluding that Jakarta's urban informal labour force accounted for 41% and 44% of Jakarta total labour force in 1967 and 1971, respectively.

A typical feature of the urban informal sector problem is that it tends to concentrate into a major city. Adopting the definition and method suggested by ILO, and using the Statistical Yearbook of Indonesia, we have estimated the urban informal sector labour force in Jakarta as well as its unemployment, underemployment and other components of the labour force, as shown in Figure 3. The hard core informal sector labour force is estimated at 0.55 million. If we divide the "housekeeping", "others" and "not in labour force" proportionally with the formal/informal ratio of the working group, it gives minimum estimates of the total informal population. Thus, the minimum estimate of the informal labour force in Jakarta in 1982 is 0.94 million and minimum estimate of informal sector population is 1.45 million. Of course, the applied formal/informal ratio is biased toward "formal". Our calculation underestimaties the actual number. In Figure 3, hard-core informal sector accounts for only 10.6% of the total labour force in Jakarta. The estimated informal sector, after including proportionally allotted householding and other categories, still accounts for only 18.2%. These estimates are far less than the estimates of Sethuraman, Grimes and Iskandar. These lowerestimates suggest that there might be something misleading in the definition or method for calculation. We speculate that a substantial number of people who are really in the informal sector, or in slums, tend to be missed in population surveys.

In 1982, the Bureau of National Statistics (Biro Pusat Statistik, BPS) conducted a comprehensive survey on the informal sector throughout Indonesia. It is the first study to shed light on both the urban and rural informal sectors. Since developing countries such as Indonesia are actually facing serious problems of informal workers both in rural and urban sectors, this survey is significant. Using the ILO definition, BPS calculated the urban and rural informal sector labour force, as summarized in Table 17. In the total labour force of 57.8 million, some 43.8 million or 75.9% are regarded as in the informal sector labour force, urban or rural. It is noteworthy that the "rural" informal sector, which has always been neglected, is large in Indonesia, accounting for 39.2 million, 89.37% of total informal labour force and 83.28% of the total labour force in rural sector. The urban informal sector is 4.6 million, or 10.63% of the total informal labour force and 43.59% of the total labour force in the urban sector. The study revealed that the rural informal sector poses a serious problem and demands further study, as done the urban informal sector.

Figure 3 Classified Labour Force and Estimated Formal/Informal Sector



Applying the estimated annual growth rates of labour force in the informal sector[2)], we come to a surprising conclusion that almost 90% of the growth of employment in the period 1971-80 originated in the informal sector. The rapidly increasing informal labour force brings greater employment pressure. Simultaneously, the majority of unskilled workers which are absorbed by the informal sector tends to lower the productivity, and reduce the income level below the minimum wage.

It is almost impossible to absorb such a large informal sector labour force into modern industries. A more practical solution is required. Other approaches are sought, practically and theoretically, on how to create another path for "development in the informal sector." The central government directly intervened in the employment creation activities through labour intensive public work programmes: namely, the Inpres Tingkat II Programmes, or the Presidential Instruction Programmes for District and Municipal Level Government, the New Padat Karya Programmes, or the New Labour Intensive Work Programmes, Replanting and Afforestation Programmes and Kubupaten, Roads Supporting Programmes. These are now being carried out to absorb rural labour and improve infrastructure. The informal sector did not receive as much attention as the formal sector. Institutional incentives, such as tax code changes, financial credits, vocational education, and other measures for human resource development hardly reached the informal sector.

Table 17 Labour Force of Informal and Formal Sector in Rural and Urban Area, 1982

(a)

	Formal	Informal	Total
Rural Sector	7,877,044	39,223,602	47,100,646
Urban Sector	6,037,337	4,664,818	10,702,155
Indonesia	13,914,381	43,888,420	57,802,801

(b) %

	Formal	Informal	Total
Rural Sector	16.72	83.28	100.0
Urban Sector	56.41	43.59	100.0
Total	24.07	75.93	100.0

(c) %

	Formal	Informal	Total
Rural Sector	56.61	89.37	81.49
Urban Sector	43.39	10.63	18.51
Indonesia	100.00	100.00	100.00

Source: Biro Pusat Statistik, Pekerja Sektar Informal di Indonesia, Feburuary 1986.

3. The Role of the Modern Sector

As we have seen in previous sections, the Indonesian employment structure is still heavily agrarian and contains a large informal labour force. Some changes and shifts occurred from 1971-80 as shown in Table 18. The agricultural sector contribution to the total employment decreased from 66.3% in 1971 to 55.9% in 1980. In the same period sizable investment allocations were allotted to textile, chemical, foods, forestry and non-metal mineral industries. These allocations were directed and guided by BKPM, the Capital Investment Coordinating Board, in line with the policies in the GBHN and the First and Second Five Year Plans (REPELITAs I and II). According to the Third Five Year Plan (REPELITA III), priorities and capital investment should be shifted toward the non-metal mineral, chemical, pharmaceutical and basic metal industries, as well as agriculture, forestry and mining, including the high technology mining industry. The political purpose in shifting priorities is to change investment from quickly-yielding projects to heavy industries. However, actual industrial activity in the latter half of seventies was centered on import substitution in the light industries, as the country still depended on imports of raw materials, machineries and other equipment.

Changes in investment orientation toward heavy industries continue. In the Fourth Five Year Plan (REPELITA IV) even greater priority is given to it.

Table 18 Industrial Employment Structure, 1971-80

	Employment		Change in Employment	Share (%)		Contribution to Increase of Employment	Average Annual Sectoral Growth Rate
	1971	1980	1971-80	1971	1980	1971-80	(%)
Agriculture	24,936	28,834	3,898	66.3	55.9	28.0	1.6
Mining	80	387	307	0.2	0.8	2.2	19.1
Manufacturing	2,573	4,680	2,107	6.8	9.1	15.1	6.9
Public Utilities	35	66	31	0.1	0.1	0.2	7.3
Construction	640	1,657	1,017	1.7	3.2	7.3	11.1
Trade, Hotel & Restaurants	4,077	6,679	2,602	10.8	13.0	18.7	5.6
Transportation & Communications	901	1,469	568	2.4	2.8	4.1	5.6
Insurance, Finance, etc.	87	302	215	0.2	0.6	1.6	14.8
Social & Personal Services	3,870	7,145	3,275	10.3	13.9	23.5	7.1
Not Adequately Stated	429	334	(95)	1.2	0.6	(0.7)	-2.7
Total	37,628	51,553	13,925	100.0	100.0	100.0	3.6

Source: Population Census 1971, Series D.
Population Census 1980, Series S, No. 2.

Throughout Indonesian industrialization in the sixties and seventies, it has been recognized that the capacity of modern industries to absorb labour is very limited. And, as a result, government efforts for job creation have tended to be rural programmes. Still, labour-absorbing programmes should be expanded again in the formal modern sectors, because rural programmes have their limit: They can only provide temporarily relief for the rural unskilled labour force in a limited range.

In the long run the labour absorption of manufacturing and related modern industries will be substantial. Although the share of manufacturing was only 9.1% of total employment in 1980, the incremental contribution of the manufacturing and other modern industries to new employment during the period 1971-80 has been significant (see Table 18). During 1971-80, total employment increased by 13.9 million, of which 28.0% and 23.5% were absorbed by two major informal-employment dominant industries, agriculture, and social and personal service respectively. On the other hand, four major formal-employment dominant industries, namely, "Manufacturing," "Construction," "Trade," and "Transportation and Communication" absorbed 15.1%, 7.3%, 18.7% and 4.1%, respectively. Such modern industries can be expected to be sources of future employment despite trends of using the more capital intensive technology.

Table 19 presents the incremental capital demand induced by a unit increase of output, ICOR, the incremental labour demand induced by a unit increase of output, ILOR, and capital intensity to labour ratio for each subsector of Indonesian manufacturing. The subsectors which have large labour absorption and relatively small capital intensity to labour are "Other chemicals," "Transportation Equipment," "Fabricated Metal," "Plastic Products," "Electric Machinery," "Non-

Metalic Mineral" and "Wool Products". "Textiles" is the most labour-absorbing subsector. Considering the technical nature of larger labour absorptive capacity as represented by ILOR and smaller capital intensity as represented by ICLR, these selected industries are very promising for easing manpower pressure and pushing economic development forward in coming years. It is not worthwhile to give priorities to heavy industries that have low ILORs and large ICLRs, as they may create problems of inefficiency due to limited availability of skilled manpower, and because the marketing of their products will be sufficient from related, local, downstream industries.

Table 19 Capital and Labour Demand Induced by Increase of Output in the Indonesian Manufacturing, 1980

Industry	ICOR	ILOR	ICLR
Food Manufacturing	2.47	557	4.43
Textiles	2.19	2,605	0.84
Wood Products	3.32	851	3.90
Paper, Printing	4.48	672	6.66
Chemical, Petro-products	2.34	237	9.87
Industrial Chemicals	2.58	172	15.00
Other Chemicals	2.59	1,449	1.78
Rubber Products	0.92	36	25.55
Plastic Products	5.62	1,059	5.31
Non-Metalic Mineral	3.70	885	4.18
Basic Metal	6.50	470	13.83
Machinery (Total)	3.32	486	6.83
Fabricated Metal	3.06	1,232	2.48
Non-Electric Machinery	3.75	187	20.05
Electric Machinery	2.79	960	2.90
Transport Equipment	2.50	1,394	1.79
Control Equipment etc.	2.06	512	4.02
Other Manufacturing Products	2.20	797	2.76
Total Manufacturing	4.07	1,381	2.95

Source: Departemen Perindustrian dan Biro Pusat Statistik, 1983
Penghitungan Capital Output Ratio Sektor Industri.
Departemen Perindustrian dan Biro Pusat Statistik, 1983
Penghitungan Labour Output Ratio Sektor Industri.

Note: ICOR denotes the "Incremental Capital Output Ratio" (Rp/Rp)
ILOR denotes the "Incremental Labour Output Ratio" (Person/Billion Rp)
ICLR denotes the "Incremental Capital Labour Ratio" (Million Rp/Person)

III. FUTURE TRENDS

As stated above, the most important issue in Indonesia is how to expand employment opportunities. During the Fourth Five Year Plan (REPELITA IV) the labour force is expected to increase by about 9.3 million people. Economic growth of 5 percent per year will provide a maxi-

mum 7.3 million additional job opportunities. Some estimates are as low as 6.1 million new job opportunities. In other words, during REPELITA IV unemployment could increase by 2-3 million people. Further, as a result of the world recession, unemployment in 1981-1983 probably increased by at least one million people.

As population growth until 2000 is expected to continue; especially on the island of Java, population pressure will remain a serious problem. Population pressure will increase because economic activities and education are concentrated on Java, and because the transmigration program will decline due to the difficulty and expense in finding suitable locations. Pressure will also be felt on the outer islands, as the increase in family size is not matched by more productive and remunerative employment opportunities.

The education system is not yet able to help solve the manpower problem. The demand for educational opportunities up to the level of university education is dramatically increasing. The government and the community have not been able to provide adequate educational facilities. State and private universities have not thus far been able to adapt their student enrollment to the demands of the labour market. University students majoring in social sciences and non-mathematical subjects will increase, but employment opportunities for them are still limited. An unbalanced labour market continues: There is a shortage of educated and skilled manpower at the same time there is unemployment among the educated.

The industrialization programme has yet to yield brighter prospects. First, this kind of program needs an adequate supply of manpower. Secondly, although an accelerated growth of industry can be achieved, its contribution to the absorption of manpower is not so large. This is caused by the predominance of capital-intensive heavy industries, as well as by the small share of the industrial sector in total employment at present. Moreover, in the future enterprises will use modern technology and equipment, reducing the sector's employment absorption capacity.

The agricultural sector is still dominant, not only as a source of national income and employment opportunities, but also as a security factor, or as a temporary reservoir of manpower. While the industrial sector has not yet absorbed a majority of the additional new workforce, at the same time it has become more and more difficult and expensive to expand agricultural land areas. As a result, the same land area will be shared and cultivated by more people. Disguised unemployment will increase.

Educated manpower will increase, but not be easily absorbed in economic activities due to limited opportunities and a lack of relevant education for the labour market. Further, the expectations of the younger generation will keep increasing, they will hesitate to work at a hard, simple, or low-paying job. Unemployment and underemployment of uneducated manpower are two great problems that the government needs to regard with pay special attention, from now on.

IV. APPROACH AND POLICY

Generally, we can conclude that human resources must be developed and job opportunities expanded. Development of human resources invloves education and training, as well as improvement of managerial capability. Expansion of job opportunities is closely related to the increase in economic development which is sensitive to government policies.

1. Vocational Training Improvement

The current Indonesian labour market situation shows that: (1) large part of the workforce has a relatively low education or no education at all; (2) about 1.5-2 million additional workers are entering the labour market annually; they are mostly young, some are dropouts with no working experience; in general they are not ready for work yet; (3) job opportunities are limited in the formal sector; and (4) job placement is difficult because of the mismatch of skills between

job seekers and jog requirements.

Although within the next five years an educational system could be established to meet the real needs for the labour market, the result may not be felt for 10-20 years. One of the most effective ways available to improve the capability and skill of Indonesian manpower at present is through training programmes. It should be noted that general education at the primary and secondary school level is important to equip the Indonesian labour force with willingness to work, work ethics, work descipline and basic knowledge.

There are two target groups for vocational or job training programmes: job holders and job seekers. Training programmes for the employed are aimed at consolidating skills for their present job, and at enabling them to gain greater responsibility or to adapt to technological developments. Some such job training can be undertaken "on-the-job" at the firm itself, particularly in big enterprises.

The second type of job training prepares people to become self-employed (entrepreneurs), individually or in groups. Job training should be given in the form of modules that are related to the kinds of business which the trainees are expected to manage. Therefore, candidate trainees should be tested to find those who want to be self-employed (entrepreneurs).

Efforts to set up businesses should be supported by providing both initial and working capital. In this context, credits should be made available, either by government banks, or in the form of special funds, or from INPRES (Presidential Instructions) funds which can be channeled or managed by the appointed training entities serving as a bank guarantee.

2. Management Improvement

The role of management is strategic in the development of manpower resources, namely in combining and utilizing production infrastructure, implementing management functions, and creating suitable working conditions.

Improvement of management in Indonesia can be done by upgrading the general managerial capability and by developing an appropriate management system for enterprises in Indonesia. Managerial skills should be upgraded so that it can develop properly without the need for various forms of government protection.

Total Quality Control has often been mentioned lately as a management system that has brought Japanese enterprises and several Indonesian companies great success. Therefore, some officials are inclined to implement Total Quality Control in Indonesia. However, first, the advantages and particularities of management system, as well as the possibilities for introducing it in Indonesia should be studied.

3. Expansion of Business Opportunities

The expansion of employment opportunities can only be achieved through the expansion of business opportunities. The greater the opportunities for the community to engage in businesses are, the more jobs are created. Business opportunities depend on the protection, investment, licensing, technology, monetary, fiscal, pricing and distribution policies of the government.

Government policies, especially in the fields of production and business licensing, seem not to stimulate the expansion of business opportunities and national productivity. Permits required for establishing a business enterprise are numerous and complicated. To obtain permits and recommendations is time consuming. Moreover, licensing can become a choke point for illegal payments, the cost of which is borne by the enterpreneurs and workers.

Licensing procedures invite delays and obstruct the expansion of employment opportunities. In a micro sense, legal and illegal payments are an additional cost and burden for business enterprises, and also serve to prevent expanded business operations.

4. Manpower Planning

Manpower planning is aimed at providing and meeting the manpower needs of development efforts, and at utilizing potential human resources. On the one hand, development requires manpower with improved knowledge and skills. The preparation of manpower by means of educational and training should be incorporated into manpower planning. To supply appropriate manpower, information is needed on job vacancies, skill and educational requirements, locations and sectors. Similarly, information on labour supply also needs to be analysed regularly to formulate development programmes that are labour-market oriented. In other words, the formulation of development plans, of manpower plans and education and training plans all require complete labour-market information.

The relationship between manpower and development does not only mean that manpower planning should be based on development planning, but also that development planning should be open to accommodating problems that arise in the labour market.

NOTES

1) A population census was conducted only once before World War II, in 1930.
2) Central Bureau of Statistics, Population of Indonesia: Results of the 1980 Population Census, Jakarta, 1983 Series S. 8.

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