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A Preliminary View of Indonesia's Employment Problem and Some Options for Solving it

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C O N T E N T S

TABLES

LIST OF ABBREVIATIONS AND ACRONYMS

BIES	-	Bulletin of Indonesian Economic Studies
BPS	-	Biro Pusat Statistik - Central Bureau of Statistics
DKI	-	Daerah Khusus Ibukota - Special District of Jakarta
FX	-	Foreign exchange
GDP	-	Gross Domestic Product
GOI	-	Government of Indonesia
IBRD	-	International Bank for Reconstruction and Development (World Bank)
INPRES	-	Instruksi Presiden - Presidential Instruction (Local Public Works Program)
KABUPATEN	-	Administrative level 2 of local government, Regency headed by the Bupati
KOTAMADYA	-	City or municipality, also administrative level 2 of local government, headed by the Mayor (Walikota)
LFPR	-	Labor force participation rates
LNG	-	Liquified natural gas
NTB	-	Nusa Tenggara Barat - West Nusa Tenggara
NTT	-	Nusa Tenggara Timur - East Nusa Tenggara
OPEC	-	Organization of Petroleum Exporting Countries
REPELITA IV	-	Rencana Pembangunan Lima Tahun ke IV - Fourth Development Plan - 1984/85-1988/89
SAKERNAS	-	Survey Angkatan Kerja Nasional - National Labor Force Survey
SUSENAS	-	Survey Sosial Ekonomi Nasional - National Household Income and Expenditure Survey
USAID	-	United States Agency for International Development

EXECUTIVE SUMMARY

This paper briefly surveys and makes an initial assessment of Indonesia's employment situation. It sketches a cross-section of the employment picture in 1980 and examines some of the more pertinent trends for the period 1971-80. An attempt is made to define more precisely the nature of the country's "employment problem." Apparent prospects for future employment and some of the possible options for improving these prospects are considered in broad terms.

Summary Conclusions

1. Employment data should be used with extreme caution in drawing conclusions on employment trends. An uncritical mixing of census and labor force survey data should be avoided.

2. The employment problem should be viewed as an income and employment problem. The level and distribution of real household income/expenditures is potentially the single best indicator of employment adequacy.

3. The widespread existence of employment opportunities is probably the single most important means of ensuring equitable distribution of income. Nevertheless, the existence of widespread employment does not in itself ensure the adequacy of income levels.

4. Average real household expenditures/incomes probably improved between 1976 and 1981, possibly by as much as a 5% annual average.

5. Open unemployment (1.7%) is not a significant problem in Indonesia in the aggregate. It is a problem, however, among the young and the relatively better educated, particularly in urban areas. Underemployment (36.5%) may or may not be a problem -- it may also be a solution. Disguised unemployment may be three times the size of open unemployment and appears to be concentrated among the age group 15-24.

6. The employment problem that currently exists and that appears to be pending, is largely rural in origin. Both the incidence of poverty (44.6%) and the percentage of the population working less than 35 hours per week (40.8%) are twice as large in the rural areas as in the urban areas. Further, almost eight out of ten Indonesians live and work in rural areas and will be born there. Nevertheless, it is in the urban areas where the bulk of new employment will probably be sought over the next two decades. It is important that future urban-rural policies be scrutinized for balance and complementarity in order to avoid exacerbating this situation.

7. Almost the entire labor force over the next 15-20 years has already been born. This implies that the employment problem for this period must be approached largely through increases in labor demand/job creation.

8. The working age population (ages 10+) will grow substantially faster than the population as a whole for the period 1980-2000. Constant labor force participation rates in the future would imply significant decreases in the dependency ratio (total population divided by total labor force).

9. If the Indonesian labor supply tends to accomodate itself to changing levels of output by adjusting average hours of work rather than the numbers employed, employment elasticities with respect to output will tend to be overstated in periods of relatively slow economic growth and understated in periods of relatively rapid growth. This may partly explain the substantial decrease in employment elasticities during the 1970s, a period of unusually high economic growth compared to the 1960s.

10. Labor demand (assuming constant average hours per worker) is unlikely to grow as fast as labor supply during the 1980s except under conditions of moderately high growth (5% +) and significantly higher employment elasticities of output (0.50 +) compared to the 1970s.

11. Nevertheless, the Indonesian labor force will probably make its adjustments to changes in labor demand (to the extent they may be necessary) primarily through the adjustment of hours worked rather than in the numbers entering or leaving the labor force or in assuming the status of open unemployment. We would anticipate the nominal numbers of the employed to grow at roughly the same rate as the labor supply (2.5-2.7).

12. There is reason to believe that average real household incomes will not fall during the remainder of the 1980s if real non-oil GDP growth can be maintained at 5.0% and above. Effective labor force demand would only have to grow at 2.2% in order to maintain constant average real household labor earnings, assuming constant real wages and average hours of work. Each of the conditions, or combinations with equivalent effect, seem plausible.

13. Nevertheless, the employment situation critically depends on the performance of the economy. Economic growth below 4.5-5.0% is probably not consistent with maintaining average real household income/expenditure levels. Further, economic growth in this range implies that average labor income per worker will tend to fall even if the average per capita real labor earnings of the population as a whole remain constant.

14. It is the rural areas of Java where the greatest poverty exists, where the greatest numbers of underemployed exist, and where much of the future growth in the labor force will originate. The failure to maintain income and employment opportunities in these areas can be expected to pose dramatic urbanization pressure.

15. Likely broad trends:

a. The annual population growth rate will probably slow from 2.3% in the 1970s to 2.1% in the 1980s to 1.8% in the 1990s.

b. The annual growth in the potential labor force (population ages 10+) will slow from 2.9% in the 1970s to 2.7% in the 1980s to 2.3% in the 1990s.

c. The size of the potential labor force (on the basis of GOI population projections) will increase from 104 million in 1980 to 136 million in 1990 to 171 million in the year 2000.

d. The size of the actual labor force will probably increase by at least 32 million and possibly by as much as 43 million between 1980-2000.

e. There will probably be continuing rapid urbanization in the 1980s and 1990s, largely because of rural migration. One-half of the total population increase in Indonesia during the 1980s and two-thirds of the total population increase in the 1990s will probably be urban according to IBRD spatial distribution studies.

f. There will be rapid increases in the educated population. There were 15 million students in 1970, 31 million students in 1980, and there will probably be 50 million students by 1990. This raises significant questions as to whether sufficient numbers of appropriate job opportunities can be created in the urban non-agricultural private sector under existing industrial-trade policies.

g. The population on the outer islands will continue to grow considerably faster than on the island of Java. During the 1970s the outer islands grew at an average 3.6% compared to 2.0% for Java. During the 1980s these rates are expected to decrease to 2.7% for the outer islands and 1.8% for Java. The population growth rate is expected to decrease further on Java (1.4%) during the 1990s, although not in the outer islands (2.7%).

h. Nevertheless, if the past is a guide to the future, per capita income and household expenditures will generally grow faster in the outer islands than on Java. (Question: why haven't wage and income differentials induced greater migration to the outer islands?)

i. Agriculture will probably provide relatively little net new employment in the 1980s and 1990s. Depending on the statistics used, agriculture may have provided less than 10% of new employment during the 1970s or as much as 28%. The growth in agricultural employment is expected to be much less on Java (where it may be negative) than in the outer islands.

j. Increasing educational participation and expanding retirement opportunities, both reinforced by urbanization trends, will tend to effectively reduce the potential labor force working ages from ages 10+ to ages 15-65.

k. Increasing urbanization will tend to decrease the average labor force participation rates of females, the young, and the old. Declining fertility rates will probably tend to increase female labor force participation. Without careful consideration of these offsetting trends plus the factors raised above, it is not clear that we can agree with the rapid increases in female labor force participation projected by the GOI for 1980-2000. Further, given the use of nominal employment rather than hours of labor input in calculating labor force participation rates, it is not clear what GOI nominal labor force trend projections imply for trends in average hours of labor input or in total hours of labor input.

16. There are two basic ways of increasing long-term employment opportunities, assuming that average real household incomes/expenditures are held constant or increase. The first is by increasing the average labor intensity of output. The second is by increasing the economic rate of growth.

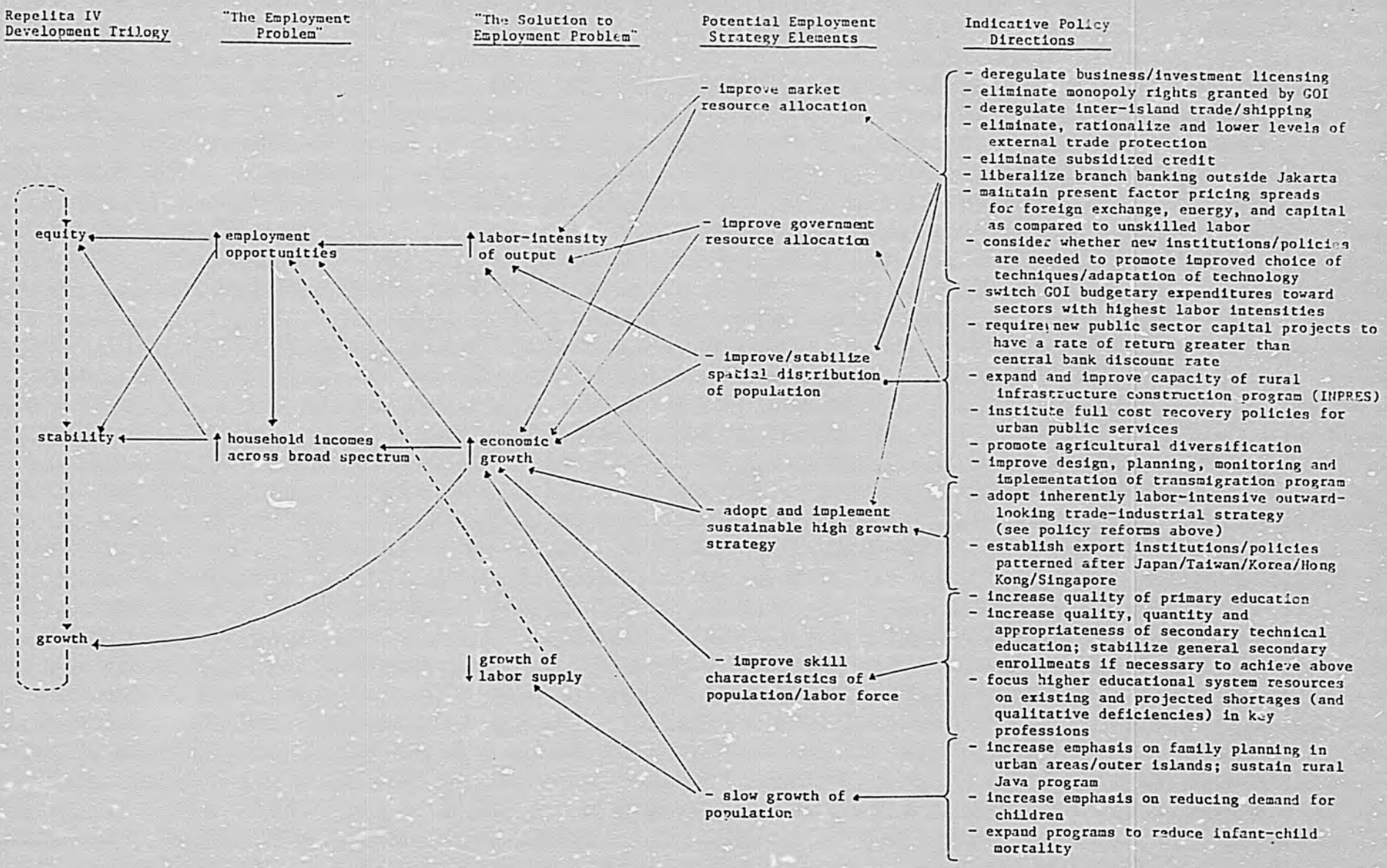
17. There are numerous government policy changes that would positively support either or both of these potential policy goals. A long-term market-oriented productivity approach to the framing of an employment strategy suggests that many of the more significant policy directions can be categorized under the following core strategy elements:

i. improve market resource allocation;
ii. improve government resource allocation;
iii. improve inter-island and stabilize urban-rural spatial distribution of population;
iv. adopt and implement sustainable high growth strategy;
v. improve skill characteristics of population/labor force;
vi. slow growth of population.

The table on the next page displays these strategies and possible policy options for implementing them.

18. It is not necessary that all potential core strategy elements or suggested policy directions be included in a GOI employment strategy. They may be thought of as a menu from which numerous strategies might be drawn. Nevertheless, there is a strong presumption that the more policy changes brought to bear on the employment problem the better. Further, there is reason to believe that a strategy which focuses solely on increasing the labor-intensity of output may be in trouble over the longer term unless it is accompanied by economic growth. The pursuit of increased labor intensities should not be allowed to needlessly erode growth. It is better (and possible) to have both.

A Market Oriented Long-Term Productivity Approach to the Income/Employment Problem



I. INTRODUCTION

1.01. Background - Employment is a world-wide problem that is not necessarily limited to the poor, the less educated, or the less developed. Nevertheless, the employment problem tends to strike hardest at these groups and is increasingly seen as one of the most important policy issues facing much of the Third World over the next two decades.

1.02. The reasons for concern tend to be universal and generally self-evident. Low average income levels, high concentrations of poverty, high population to resource ratios, high population growth rates, disproportionately young population structures, rapid urbanization, and, all too frequently, misguided policies that ignore rudimentary economics combine and interact to breed pessimism among even the most optimistic observers. Seen in this perspective, Indonesia's employment problem is neither unusual nor probably worse than most low- and many middle-income group countries.

1.03. Nevertheless, each country's situation is unique and requires separate analysis and individual policy prescriptions. Factors that contribute to each country's employment problem differ in kind and degree and the socio-political-economic feasibility of potential solutions will also vary. But despite the diversities in both the contributing factors and the resultant policy prescriptions, there will tend to be (or should be) universal threads in the underlying "employment strategy."

1.04. On the demand side it seems evident that all ultimately feasible employment strategies must be long-term in nature. Thus, they must be development strategies and, hence, growth strategies. In the long-run there must be economic growth. Although some sectoral compositions of growth and, therefore, structural transformations of the economy will be more employment intensive than others and it may be possible to trade higher growth rates for greater employment, over the long term it is essentially infeasible to have continuing rapid growth in employment at constant or increasing real wage levels without positive real economic growth rates that are substantially greater than the growth rate of the labor force. This implies that essential economic efficiency considerations which contribute to growth and long-term employment cannot simply be ignored in the pursuit of current employment. This is not to say there is not flexibility (see Section V) but merely to state the obvious: long-term employment strategies must be economically sound. Put differently, the employment problem is ultimately also an economic growth problem and should be approached as such.

1.05. On the supply side it seems equally evident that control and guidance of population growth, its spatial distribution, and its skill and educational characteristics will decrease the difficulty of the task on the demand (job creation) side. Although it is clear that not all the supply side variables will have immediate/or large impact on the employment problem in the short-term, their ultimate importance makes them an integral part of any comprehensive long-term employment strategy.

1.06. Finally, although implicit in the earlier comments, especially those on growth, most long-term employment strategies probably will consider at least some possibilities for improving resource allocation

efficiency, whether through the market mechanism or through direct allocation by the government or public sector. The possibilities for improving efficiency will differ dramatically depending on (i) the proportion of total resources directly allocated by the government or public sector, (ii) the degree to which government and public sector enterprise resources are efficiently allocated, (iii) the degree to which market resource allocations are distorted by government policy and regulation, and (iv) the degree to which market imperfections exist.

1.07. Recognition of Problem - The Government of Indonesia (GOI), including its top political leadership, clearly accepts the need and the urgency to do something about the employment problem. Although some controversy appears to exist over its nature, size, and degree of urgency, and the government has been slow in either defining or agreeing upon an explicit strategy, the GOI would seem prepared to take action if a clear cut course can be defined. The problem appears to be more in deciding what to do than whether something should be done. Nevertheless, although the multi-dimensional relationship of the employment problem with poverty, equity, growth, urbanization, and political stability is probably intuitively understood by most within the GOI leadership, it is not clear that it is understood or accepted that the multi-dimensional causes of the employment problem require a multi-dimensional solution.

1.08. Purpose and Scope - The purpose of this paper is to briefly survey and make an initial assessment of Indonesia's employment situation. The paper sketches out a cross-section of the present employment picture (1980) and examines some of the more pertinent recent trends (1971-80). An attempt is made to define more precisely the nature and shape of Indonesia's "employment problem." Apparent prospects for future employment and some of the possible options for improving these prospects will be considered in relatively broad terms.

1.09. Although there should be no need to provide this reminder, it is important to recognize the tentative, preliminary nature of this study. It would be gratifying to have answers for all of the questions surrounding Indonesian employment, but for the moment we may have to be satisfied with simply attempting to identify the most relevant questions.

II. OVERVIEW OF INDONESIAN LABOR FORCE AND EMPLOYMENT

2.01. This section briefly reviews the principal data sources relating to employment and some of the characteristics and trends of the Indonesian labor force that are relevant to policy making. The period under consideration is largely limited to 1971-80, although reference may occasionally be made to both older and more recent data. The statistical appendix to this paper contains an extensive and generally far more detailed set of tables than those in the text.

A. Data

2.02. Data Sources - There are four basic types of data sources for labor force and employment information in Indonesia: (i) population censuses, (ii) labor force surveys, (iii) special sectoral surveys/censuses, and (iv) village level case studies. The sources of information differ in the comprehensiveness of the questions asked, geographic coverage, sample size, sampling methodology, source and training of the enumerators, key definitions, and seasons and years of data collection. These differences tend to occur both within and between the four basic categories of data sources. Obvious problems of comparability arise that cast doubt on trend analysis, particularly when based on uncritical mixing of data sources. We will return to the question of data comparability after briefly describing some of the more important data sources (see Table 1).

Table 1
Major Employment and Labor Force Data Sources, 1971-1982 *, **

	Dates of Enumeration	Sample Size	Geographic Coverage	Definition of Employment
I. Population Censuses				
1961 Census	Oct 1-31	-	All Indonesia, except Irian Jaya estimated	Working for income on the enumeration date or at least two months during last six months.
1971 Census	Sept 6-Oct 4	3.8% population	All Indonesia, except Irian Jaya and Timor Timur	Working for income or profit (or helping in same) for at least two days in the week prior to the enumeration date. Includes "employed" but temporarily not working.
1980 Census	Oct 6-31 (1981)	5.0% population	All Indonesia, except Timor Timur	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. Includes "employed" but temporarily not working.
II. Labor Force Surveys				
1976 Supas	March	60,733 households	All Indonesia, except restricted sampling N.T.T., Maluku, Irian Jaya	same as 1980 Census
1976 Sakernas	Sept-Dec	95,400 households (1/4 in each month)	All Indonesia, except restricted sampling N.T.T., Maluku, Irian Jaya	same as 1980 Census
1977 Sakernas	Feb, May, Aug, Nov	± 48,000 households (1/4 in each quarter)	same as 1976 Sakernas	same as 1980 Census
1978 Susenas	Feb, May, Aug, Nov	± 25,000 households (1/4 in each quarter)	All Indonesia, except restricted sampling Maluku, Irian Jaya	same as 1980 Census
1979 Susenas	March, Sept	18,400 households	Java plus selected provinces (?)	same as 1980 Census
1981 Susenas (not published)	-	-	-	-
1982 Susenas (not yet pubically available)	Sept-Dec	-	All Indonesia, except restricted sampling Irian Jaya and Timor Timur	same as 1980 Census
III. Special Surveys/Censuses				
1970/82 Survey of Medium and Large Manufacturing (annual)	not stated	Complete enumeration of firms with more than 19 employees	All Indonesia (?)	not stated
1972 Urban Unemployment Survey	-	-	Jakarta, Surabaya, Bandung	-
1974 Industrial Census	-	All activity regardless of number employed	All Indonesia (?)	-
1975 Labor Force Survey	-	-	Palembang and Ujung Padang	-
1976 Leknas Labor Utilization Survey	-	-	Selected Areas of Java	-
1979 Small Scale Manufacturing Survey	April, Oct	± 10,000 establishments with 5-19 employees	All Indonesia except Timor Timur	Working in the establishment during the "reference period" whether paid or unpaid.

* See the Bibliography for complete citations.
** Village level case studies are not included in this table because they so numerous and because they have not been adequately surveyed by this writer.

2.03. Population Censuses - Three population censuses (1961, 1971, 1980) containing varying degrees of labor force and employment information have been conducted since World War II. Both the comprehensiveness and the precision of the employment information gathered appear to have increased with each succeeding census. Nevertheless, major problems occur in the comparability of employment data between the 1961 census and the 1971 and 1980 censuses and, to a lesser although still significant degree, between the 1971 and 1980 censuses.

2.04. Comparability of census data suffers for a number of reasons, including differences in (i) definitions, (ii) time reference periods, (iii) data collection procedures, and (iv) comprehensiveness of questionaires. 1/ In practical terms these differences have cast doubt on the size of the labor force, employment, unemployment, the structural composition thereof, and in changes therein. Understandably, interpretation of any change, including labor force and employment growth rates, unemployment rates, and labor force participation rates, must be approached with considerable caution.

2.05. Some hint of the potential difficulties in interpreting trends in the census data can be inferred by simply comparing reference periods and cut-off periods used in defining employment. Reference periods, in which employment activity is considered, range from the week immediately preceding the date of enumeration in the 1971 and 1980 censuses to the six months preceding the 1961 census. Cut-off periods used in conjunction with the reference period to determine whether a person is employed vary from two months out of the preceding six months if not working on the date of enumeration (1961 census) to two days out of the week preceding the enumeration date (1971 census) to one hour in a day in the week preceding the enumeration date (1980 census). Obviously, employment measured under the widely differing reference and cut-off periods in the three censuses refer to different concepts of employment.

2.06. No attempt will be made here to sort out or summarize the comparative analysis of population census labor force estimates. The analysis is too extensive, the caveats and possible conclusions too many. Very briefly, however, some of the principal findings seem to be: (i) direct comparisons between the 1961 and 1971 censuses are not possible because of changes in definitions and reference periods; (ii) the measured labor forces in 1971 and 1980 are too small relative to the 1961 measured labor force both because of the difference in reference periods and definitions and because of the unrealistically large proportion of young adults (particularly males) classified as "other" in

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1/ These differences and their implications have been extensively considered by G.W. Jones (1974, 1978, 1981) for the 1961 and 1971 censuses and in an edited volume by Z. Bakir and C. Manning (1983) for the 1971 and 1980 censuses. Other data sources are also considered.

the non-economically active category in the 1971 and 1980 censuses; (iii) the 1971 census procedures led to a more liberal interpretation of female work than occured in 1961, with the reverse true for males; (iv) because of the seasonal nature of much female participation in agriculture, the measured female work force is highly sensitive to definitions and reference periods; (v) the 1971 census (and possibly 1980) is more susceptible to recording seasonally unemployed as unemployed than the 1961 census, and (vi) the 1971 and 1980 censuses are relatively comparable despite the difference in cut-off periods used in defining employment. 2/

2.07. Labor Force Surveys - Table 1 sets out the seven attempts to collect comprehensive, Indonesia-wide labor force information since the 1971 census. 3/ In principle, the surveys should be reasonably comparable on the basis of their geographical coverage and definitions of employment, including reference and cut-off periods. However, some of the surveys differ considerably in their sample size and the seasons in which data were collected, and to some degree in the comprehensiveness of the questionaires administered.

2.08. In general, comparisons of quarterly labor force data should be made with data collected at comparable periods of the year because of the relatively strong seasonality factor in Indonesian employment, particularly in agriculture and particularly among female participants. The seasonality factor affects the general interpretation of other sectoral employment as well, simply because seasonal movement occurs between economic sectors as the agricultural seasons ebb and flow.

2.09. The 1976 Supas data have generally been rejected as not being comparable with other first quarter data (IBRD:1983a). Doubt has also been cast on the 1981 Susenas and no data have been made publically available to date. 4/ Finally, the 1982 Susenas had not been publically released by late Spring 1985. Thus, at present the relatively usable comprehensive labor force survey data consist of fourth quarter 1976 through fourth quarter 1979, although no data were collected in the second and third quarters of 1979.

2/ Nevertheless, various series of the 1971 census differ dramatically in recording unemployment and, to a smaller extent, in the estimate of total labor force.

3/ Other important surveys and censuses providing labor force information, but limited in either their geographical coverage or their coverage of economic sectors, are shown in Part III of Table 1.

4/ Indeed, the results of the 1981 Susenas, at least the portion relating to labor, will apparently never be published.

2.10. Some confusion in labor force survey data sources occurs because both the 1978 and 1979 data are sometimes cited as either Sakernas or Susenas. In fact, only one data source exists. The Sakernas (Labor Force Survey) was absorbed into the Susenas (National Social Economic Survey) beginning in 1978. The Sakernas and Susenas labor force data collected during the 1970s and 1980s would appear to be relatively comparable, although sample size has diminished since the base line survey in fourth quarter 1976. The comprehensiveness of the questionaires has apparently diminished as well. Beginning with 1982 the Central Bureau of Statistics plans a major labor force survey as part of the Susenas every second year, although a core questionaire of 11 questions will be collected as part of the annual Susenas. 5/

2.11. Special Surveys/Censuses - Although Part III of Table 1 does not claim to be comprehensive, it does list some of the more important sources of partial labor force data collected since 1971, but limited either by geographical coverage or by sectors of economic activity covered. 6/ With the exception of the Survey of Medium and Large Manufacturing, however, none of the data have been collected on a regular basis. The 1974 Industrial Census collected data on industrial activity regardless of establishment size (e.g., employment data were collected on the largest industrial activities down to the household and cottage industry level) thus providing one point of comparison for the 1979 Small Scale Manufacturing Survey.

2.12. Village Level Case Studies - Perhaps the most interesting work done on employment, wages, and incomes during the last 15 years are the village level case studies. Most of the case studies appear to be drawn from rural Java, are heavily focused on sawah (wet rice lands), and probably were conducted with the support or under the auspicies of the Agro-Economic Survey in Bogor or the Gadja Mada University in Jogyakarta. No attempt has been made to catalogue the village level studies here. Brief surveys of some of the more recent analyses are included in Mazumdar and Lluch (IBRD:1983a), Wiradi and Manning (1984), and Collier et al. (1982a). These citations provide a relatively up-to-date and retrospective view of many of the more important studies.

2.13. Considerable controversy is periodically generated by the village case studies only to be replaced by "new evidence" and new controversies. It is easy to forget that Indonesia is highly diversified

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5/ In fact, however, the next labor force survey will be conducted in 1985 to coincide with the collection of bi-census data.

6/ Village level case studies, which are quite numerous, are not included here.

and that conclusions drawn from one side of a Javanese mountain may not hold for the other side of the mountain, let alone for other regions of Java or the outer islands. Further, although rice is the key agricultural crop in Java and many other parts of Indonesia, it is not the only agricultural crop or the only rural economic activity. Differences in the year as well as the season of data collection have also created some confusion in interpreting conflicting findings, at least among casual observers. 7/

2.14. Conclusions on Data 8/ - In general, all employment data generated for Indonesia must be used and interpreted with considerable caution. Micro level (village) studies probably on average provide a richer, possibly more reliable set of data because they tend to be conducted by relatively experienced and better educated enumerators, because village level case study questionaires tend to be more extensive, and because it is more likely that the questionaires were actually administered. 9/ On the other hand, the problem with micro level studies is that they appear to suffer from even greater comparability problems than census and labor force survey data, and they are obviously severely limited in their geographical coverage and, therefore, in the generalizations that may safely be drawn from them.

2.15. Despite the obvious limitations in comparability, comprehensiveness, and the probable quality of the data, the sample censuses and labor force surveys still provide the most believable estimates of Indonesia-wide (all provinces, rural and urban) labor force and employment magnitudes and composition. Unfortunately, even the best is not particularly good and it becomes worse if census and labor force survey data are mixed within the same data series. Labor force participation rates, for example, are consistently several points higher in the labor force surveys than in the sample population censuses and the

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7/ For example, the brown leaf hopper crisis apparently had major impact on both agricultural employment and wages in rice growing areas in Java during 1976-78 yet is often not even mentioned in analyses of wage and employment data for this period.

8/ More specific comment on the merits of some of the data sources mentioned above, including some of the recent work on village level case studies, will be made in later sections of this paper as appropriate.

9/ In contrast, doubt is sometimes cast on both how well and whether sample census questionaires are actually administered by their relatively less educated enumerators (apparently down to the primary education level).

estimated labor force may differ by several million within the space of a single year. 10/

2.16. In sum, Indonesian labor force and employment data tend to be treacherous and must be used with the greatest of care, particularly in drawing conclusions on trends.

B. Salient Characteristics - The 1980 Census

2.17. The 1980 Population Census is currently the most comprehensive, up-to-date source of Indonesia-wide labor force and employment data available. 11/ Estimates of the labor force and employment were based on an extensive questionnaire administered to only a 5% sample of the total population, however. All data presented throughout this portion of Section II refer to the 1980 Population Census, Series S, No. 2, which presents final estimates based on the 5% sample, not including Timor Timur. 12/

1. Population Overview

2.18. Age Distribution - Indonesia's population totaled 146.8 million according to the 1980 census. It is a relatively young population with over two-thirds (67.9%) below the age of thirty and only 5.5% aged sixty years and over. Almost 29% of the population (42.4 million) is less than ten years of age.

2.19. Examination of the population structure in Table 2 reveals a highly dramatic and successive increase in size for each cohort below the age 30-34 grouping until a leveling occurs at the age 0-4 group. The fact that size of the youngest age cohorts is two to six times larger than those in the prime working age group, 30-59 years, has severe implications for future job requirements.

10/ Mazumdar and Lluch (IBRD:1983a) conclude, however, that crude male and female labor force participation rates appear to have remained constant during the 1970s if only census data or only labor force survey data are compared (and certain indefensible anomalies such as the 1976 Supas are tossed out).

11/ The 1982 Susenas should become publically available sometime during 1985. However, the sample size will be many times smaller and the comprehensiveness of the employment related portion of the questionnaire should be less than the 1980 census.

12/ The actual enumeration of the sample census was done one year after the complete October 1980 enumeration. It is not known if problems of recall occurred because of the lapse of one year.

Table 2
Population Age Distribution, 1980
(millions)

Age Group	Population	Percentage
0 - 4	21.2	14.4
5 - 9	21.2	14.5
10 - 14	17.6	12.0
15 - 19	15.3	10.4
20 - 24	13.0	8.9
25 - 29	11.3	7.7
30 - 34	8.2	5.6
35 - 39	8.5	5.8
40 - 44	7.4	5.0
45 - 49	6.2	4.2
50 - 54	5.4	3.7
55 - 59	3.4	2.3
60 +	8.0	5.5
	146.8	100.0

Source: Statistical Appendix Table 2.1.

2.20. Spatial Distribution - Indonesia's population is primarily rural (77.6%) and heavily concentrated on the island of Java (61.9%). The country's population density varies widely, ranging from 3 persons per square kilometer in Irian Jaya to 11,023 persons per square kilometer in DKI Jakarta. Java, with 6.9% of Indonesia's land area and 61.9% of its population, has the highest density of the major islands with 690 people per square km. Although the Indonesian archipelago consists of several thousand islands, nine out of every ten people (92.5%) live on the four islands of Java, Sumatra, Kalimantan, and Sulawesi. The inter-island spatial distribution of population is shown in Table 3.

Table 3
Inter-Island Spatial Distribution of Population, 1980

	% Total Population	Percentage Total Area	Population Density/Km
Sumatra	19.0	24.7	59
Java	61.9	6.9	590
Kalimantan	4.6	28.1	12
Sulawesi	7.0	9.8	55
All other	7.5	30.5	8
	100.0	100.0	77

Source: Statistik Indonesia 1983.

2.21. Although Indonesia's urban-rural population distribution varies widely at both the Kabupaten/Kotamadya level (0.2%-100.0% urban) and the provincial level (8.9%-93.4% urban), the variation decreases substantially between the four most populous islands as a whole (15.9%-25.1% urban). Variation in the level of urbanization is fairly high between provinces on Kalimantan, quite low on Java (if Jakarta is excluded), and in between for both Sumatra and Sulawesi. See Table 4 below for the inter-island (as opposed to provincial) variation in the level of urbanization.

Table 4
Urban-Rural Population Distribution, 1980
(millions)

	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:1984b, Vol. II.

2.22. Educational Characteristics - Indonesia had 32.7 million students attending school in 1980, relatively evenly divided between male (53.7%) and female (46.3%) in the aggregate. Almost all students (96.3%) were below 20 years of age. However, the proportion of the population attending school falls off quite rapidly after reaching 80% in the age group 10-14. For example, based on school attendance alone, the bulk of age group 15-19 (66.9%), and almost all of age groups 20-24 (93.3%) and 25-29 (98.3%) should, in principle, be available for either employment or housekeeping. See Table 5.

Table 5
School Attendance of Population 5 Years and Above, 1980
(000)

	Not Yet Attended School	Attending School	No longer Attending School	Percentage Attending School
Age 5 - 9	8,542	12,331	359	58.1
Age 10 - 14	1,092	14,058	2,469	79.8
Age 15 - 19	1,711	5,064	8,508	33.1
Age 20 - 24	1,901	865	10,236	6.7
Age 25 - 29	2,035	188	9,120	1.7
All other	21,994	157	24,956	0.3
Total	37,275	32,663	55,648	26.0

Source: Population Census 1980, Series S-2, Table 12.3.

2.23. Although school attendance is relatively equal for males (53.7%) and females (46.3%) in the aggregate, in the older age categories, it is much more likely that males will attend school than females. 13/ It is also more likely that an urban dweller will attend school in any age category than a rural dweller, regardless of sex, with the urban-rural discrepancy increasing with age. Table 6 shows striking similarities in male-female school attendance for ages 5-9 and ages 10-14 for urban and rural areas separately. Similarly, Table 6 shows a roughly analagous decrease in female attendance in the age groups 15-19 and 20-24 for both urban and rural locations. It is clear that a substantially larger percentage of rural males and females are potentially available for employment than their urban counterparts in the ages 15-19 category, and to a lesser extent in both the ages 10-14 and 20-24 categories.

13/ See Table 2.3 in the statistical appendix for a year by year comparison for ages 10-18.

Table 6
School Attendance by Age, Sex, and Location, 1980
(Percentage)

	Ages 5-9	Ages 10-14	Ages 15-19	Ages 20-24
Urban				
Male	68.5	91.7	62.5	21.2
Female	69.9	87.2	44.8	9.9
Total	69.2	89.5	53.4	15.4
Rural				
Male	54.4	79.1	32.5	5.3
Female	56.2	74.7	19.0	1.9
Total	55.3	77.0	25.7	3.4
Indonesia				
Male	57.2	81.9	40.5	9.9
Female	58.9	77.6	26.0	3.9
Total	58.1	79.8	33.1	6.7

Source: Population Census 1980, Series S-2, Tables 12.1-12.3.

2.24. Of the total population age 10 and above (104.4 million), roughly 72% have had some formal schooling. However, only 10.8% of the population above the age of nine has had more than a primary school education, 4.8% more than a junior high education, and only 0.5% more than a high school education. See Table 7.

2.25. Females as a group had relatively lower educational attainment at any level of education. It is readily apparent in examining Table 7 that, with the exception of the no schooling category, the relative discrepancy between male and female educational attainment substantially widens at each succeeding educational level, i.e., the ratio of males to females monotonically increases for all categories, from 1.1 at less than a primary education to 1.9 at the senior high level to 3.3 at the university level. See Table 2.2 in the appendix for further detail.

Table 7
Level of Educational Attainment of
Population 10 Years and Over, 1980
(000)

	Male	Female	Total	% Total
No Schooling	9,684	19,076	28,760	27.6
Less than Primary	22,513	20,260	42,773	41.0
Primary	12,001	9,536	21,538	20.6
Junior High	3,759	2,478	6,237	6.0
Senior High	2,964	1,573	4,537	4.3
Academy	206	74	280	0.3
University	175	53	228	0.2
Total	51,303	53,050	104,353	100.0

Source: Population Census 1980, Series S-2, Tables 9.7-9.9 and Tables 43.7-43.9.

* Includes unstated.

2.26. It is clear from Table 8 that the urban population has attained a relatively higher level of education at all formal levels than the rural population and that the relative discrepancy widens as the level of educational attainment increases. Above the primary education level urban areas contain the bulk of the formally educated population, despite containing less than one-fourth of the total population above the age of ten. Urban areas contain from over one-half to over three-quarters of the total population having junior high (54.6%), senior high (62.1%), academy (75.7%), and university (79.4%) educations.

Table 8
Comparison of Urban-Rural Educational Attainment of
Population 10 Years and Over, 1980
(000)

	Urban	Rural	% Urban Structure	% Rural Structure	Urban % of Total
No School *	3,433	25,327	14.3	31.6	11.9
Less than Primary	7,700	35,073	32.0	43.7	18.0
Primary	6,338	15,200	26.3	18.9	29.4
Junior High	3,405	2,832	14.1	3.5	54.6
Senior High	2,822	1,715	11.7	2.1	62.1
Academy	212	68	0.9	0.1	75.7
University	181	47	0.7	0.1	79.4
Total	24,091	80,262	100.0	100.0	23.1

Source: Population Census 1980, Series S-2, Table 9.3, 9.6, 9.9, 43.3, 43.6, and 43.9.

* Includes unstated.

2.27. Literacy - Discrepancies in the male-female and urban-rural literacy rates are considerably smaller than the differences in the disaggregated levels of educational attainment discussed in the preceding paragraph. This is not surprising since the percentage of total population (ten years of age and over) ever attending school (72.5%) is almost identical to the literacy rate (71.2%) for the same population. In aggregate, urban literacy (85.5%) is about 20 points higher than rural literacy (65.8%) and male literacy (79.8%) is 17 points higher than female literacy in both the urban and rural categories. However, the rural female is relatively less literate no matter how the comparison is made (see Table 9). Examination of literacy rates by age group and sex suggests a steady and substantial deterioration in literacy rates the older the population, along the expected urban-rural and male-female breakdowns.

Table 9
Literacy Rates for Population Ages Ten Years and Over, 1980

	Urban	Rural	Indonesia
Male	92.0	76.1	79.8
Female	79.1	57.9	62.8
Total	85.5	65.8	71.2

Source: Population Census 1980, Series S-2, Tables 17.1-17.3.

2. Labor Force and Employment Overview

2.28. Definitions and Methodology - The labor force in Indonesia is defined as that subset of the population ten years and older that is economically active. A person is economically active if they are working or if they are looking for work. A person is working if they worked for income or profit (or helped in same) at least one hour in a single day in the week preceeding the census enumeration date or if they are temporarily unemployed. A person is temporarily unemployed if they are not at work because they are ill, on leave, on strike, waiting for customers for certain professions, or are farmers or agricultural workers waiting for harvest time, the rains, etc.

2.29. A person is classified as looking for work if they looked for work during the week preceding the enumeration date. A person not working but looking for work is classified as unemployed and includes (i) those who have never worked and are seeking employment for the first time and (ii) those who have previously worked but are not working during the enumeration period although looking. The latter category includes those who are fired. If a person cannot be classified as "working" or "looking for work," they are classified as "not economically active" and must be further categorized as either attending school, housekeeping, or "other," depending on which category best describes their main activity. Similarly, if a person is working they must be categorized in the economic activity, work status, profession, etc., that is best described by their primary expenditure of time, regardless of secondary or tertiary work activities. A person will be classified in the "not economically active" category only if they fail to meet the minimum requirements for being classified as "economically active," regardless of where the bulk of their hours are spent. Table 10 shows the working age population in 1980 categorized by the above definitions and classification methods.

2.30. Although the chain of definitions that define the structure of labor force statistics continues, and in greater detail than the superficial accounting above, it should already be clear that "hard" statistics quickly grow soft around the edges for very basic theoretical and methodological reasons, long before any difficulties are encountered

in statistical sampling and the actual enumeration and tabulation. We will return to some of the more pertinent of the theoretical and methodological issues that can be raised as we attempt a closer analysis and interpretation of the meaning of labor force and employment statistics in Section III of this paper. The overview of labor force and employment statistics presented in the remainder of this section will generally be descriptive only.

2.31. Potential Labor Force - In principle, the potential Indonesian labor force totaled 104.3 million according to the October 1980 census. That would have been the size of the labor force if every male and female ten years of age and over had worked at least one hour in the preceding week or if they said they were looking for work--irrespective of whatever other activities they may have been engaged in, such as housekeeping, attending school, being retired, etc. In actual fact, only one half (50.2%) of this potential force was measured as economically active (a member of the labor force) under the definitions set out above. 14/

2.32. Table 10 summarizes the breakdown of the population considered eligible for membership in the labor force during October 1980 (10 years of age and over) by sex, urban-rural location, and the activity in which they were categorized on the basis of the preceding week. As noted earlier, one-half (50.2%) of the elgible population was classified as part of the labor force, i.e., working or looking for work. Approximately one-fifth of the population was attending school (18.0%), another fifth was housekeeping (21.3%), and the final tenth was classified as "other" (10.5%). The "other" category includes anyone (10 years of age and over) who could not first be classified as either working, looking for work, attending school, or housekeeping. It is a residual category that claimed 11.0 million people, and its significance for interpreting the employment problem is a subject of speculation to which we will return in Section III.

14/ The reader should be advised, however, that even under apparently the same definitions, an official GOI working group for Repelita IV implicitly concluded that the labor force was actually several million higher in 1980, judging by their decision on the 1983 estimates. See Section IV for details.

Table 10

Population 10 Years of Age and Over by Type of Activity, 1980
(000)

	ECONOMICALLY ACTIVE							NOT ECON. ACTIVE					
	EMPLOYED			UNEMPLOYED BUT LOOKING									
	Working*	Temporarily Not Working	Total Employed	Previously Worked	Never Worked	Total Unemployed	Total Labor Force	Attending School	House Keeping	Other	Total Non-labor Force	Total POP	% Economically Active to Population
Urban													
Male	6,763	115	6,878	59	129	188	7,066	3,391	115	1,380	4,486	11,952	59.1
Female	2,783	65	2,848	17	70	87	2,935	2,749	5,240	1,214	9,203	12,138	24.2
Total	9,546	180	9,726	76	199	275	10,001	6,140	5,355	2,594	14,089	24,090	41.5
Rural													
Male	27,131	609	27,740	164	128	292	28,032	6,971	413	3,934	11,318	39,350	71.2
Female	13,458	629	14,087	176	125	301	14,388	5,660	16,408	4,456	26,524	40,912	35.2
Total	40,589	1,238	41,827	340	253	593	42,420	12,631	16,821	8,390	37,842	80,262	52.9
Indonesia													
Male	33,894	724	34,618	223	257	480	35,098	10,362	528	5,314	16,204	51,302	68.4
Female	16,241	694	16,935	193	195	388	17,323	8,409	21,648	5,670	35,727	53,050	32.7
Total	50,135	1,418	51,553	416	452	868	52,421	18,771	22,176	10,984	51,931	104,352	50.2

Source: Population Census 1980, Series S-2, Tables 39.1-39.9 and 56.1-56.9.

* Worked at least one hour in preceeding week.

2.33. Table 11 provides a rough but quick appreciation of how the Indonesian population presumably spends its time. 15/ Roughly twice as many males (68.4%) as females (32.7%) are classified as part of the labor force. On the other hand, 40.8% of females were classified as housekeepers compared to only 1.0% of the males. Similar numbers of both sexes were classified as attending school (male--20.2%; female--15.8%) and almost identical numbers were classified as "other" (male--10.4%; female--10.7%).

2.34. Although the same relative all-Indonesia male-female patterns just described generally hold in urban or rural areas, significant differences occur between urban and rural areas in labor force participation and school attendance. Labor force participation in rural areas is essentially ten points higher and school attendance ten points lower than in urban areas. Although very small differences occur in the other categories, one could reasonably conclude from examining Table 11 that the difference in urban-rural labor force participation rates is largely explained by the difference in school attendance.

Table 11
Population 10 Years of Age and Over by Type of Activity, Percentage Distribution, 1980

		- Not Economically Active -			
	Labor Force	Attending School	House Keeping	Other	Total Population
Urban					
Male	59.1	28.4	1.0	11.5	100.0
Female	24.2	22.6	43.2	10.0	100.0
Total	41.5	25.5	22.2	10.8	100.0
Rural					
Male	71.2	17.7	1.1	10.0	100.0
Female	35.2	13.8	40.1	10.9	100.0
Total	52.9	15.7	21.0	10.4	100.0
Indonesia					
Male	68.4	20.2	1.0	10.4	100.0
Female	32.7	15.8	40.8	10.7	100.0
Total	50.2	18.0	21.3	10.5	100.0

Source: Table 10.

15/ The reasons for this skepticism will become more clear in Section III when we examine the nature and shape of the employment problem, but for now it will have to suffice that the root of confusion on how people actually spend their time lies in the uniqueness requirement of the classification system used, i.e., to avoid double counting an individual can only appear in one classification category although he or she may qualify for other categories as well.

2.35. A comparison of Table 12 with Tables 10 and 11 seems to support the tentative explanation for differences in urban-rural labor force participation rates. Total school attendance in Table 12 is slightly larger for each of the urban-rural, male-female breakdowns in Table 10, suggesting that some students (apparently 1.561 million) were also employed and, therefore, not shown as attending school when the activity classification in Table 10 was derived during the employment survey portion of the census. 16/ Further disaggregated examination by sex, age, and provincial breakdown, particularly for younger males (ages 15-29), would improve the strength of this initial observation.

Table 12
School Attendance by Percentage
Population 10 Years of Age and Over, 1980
(000)

	Male	Female	Total
Urban	3,572	2,856	6,428
%	(29.9)	(23.5)	(26.7)
Rural	7,771	6,133	13,904
%	(19.7)	(15.0)	(17.3)
Total	11,343	8,989	20,332
%	(22.7)	(16.9)	(19.5)

Source: Population Census 1980, Series S-2, Tables 12.1-3.

2.36. Measured Employment - The difference in employment and the labor force in Indonesia is 1.7%, i.e., the measure of open unemployment. Because this difference is so small and because a comparison of characteristics between the employed and the unemployed is likely to be of greater interest, the characteristics in the remainder of this portion of Section II are presented for the employed portion of the labor force only. In addition, the characteristics of the underemployed (i.e., those employed but working less than 35 hours) as well as the unemployed will not be considered in detail until Section III of this paper. The remainder of this discussion will briefly lay out the distribution of employment in 1980 by sex, urban-rural location, age, education, inter-island spatial distribution, industry, occupation, and employment status.

16/ This conclusion in turn seems to be supported by Table 3.9 in the statistical appendix, which shows 0.853 million of the work force stating they were not looking for other/additional work because they were attending school.

2.37. Employment by Sex and Location - Measured employment in Indonesia in 1980 (i.e., those working at least one hour in the preceding week or "temporarily not working") totaled 51.6 million. Males accounted for 67.2% of total employment, females for 32.8%. Males made up a slightly higher proportion of employment in the urban areas (70.7%) than in the rural areas (66.3%). Over four out of every five people were employed in rural areas (81.1%), slightly greater than the proportion of the population shown as living in the rural areas (77.6%). The reverse situation holds true for the urban areas (18.9% of employment vs. 22.4% of the population). See Tables 4, 13, and 14 for details.

Table 13
Employment Measured by 1980 Census
(000)

	Male	Female	Total	Percent by Location
Urban	6,878	2,848	9,726	18.9
Rural	27,740	14,087	41,827	81.1
Total	34,618	16,935	51,553	100.0%

Source: Table 10.

Table 14
Distribution of Employment by Sex, 1980
(Percent)

	Urban	Rural	Total
Male	70.7	66.3	67.2
Female	29.3	33.7	32.8
Total	100.0	100.0	100.0

Source: Table 13.

2.38. Employment by Age Distribution - The absolute core of Indonesian employment, over 44.1 million (85.6%), appears to fall between the ages of 15 and 54 on the basis of Table 15. On other grounds, such as the level of age-specific labor force participation rates and the number of hours worked per week, we would probably adjust this conclusion to include ages 25-59, with a heavier weighting toward males. Nevertheless,

taken at face value, Table 15 shows that the absolute numbers of the employed basically peak in their late twenties and generally fall off steadily thereafter. The Indonesian labor force is obviously relatively young.

2.39. The proportion of employment held by females by 5 year age groupings is highest at the youngest ages (10-19) and generally lowest during the prime child bearing ages, although relatively constant thereafter. The proportion of employment held by males obversely mirrors the females; it is lowest at ages 10-19 (60%) and ranges between 67 and 72% thereafter. A discussion of age-specific labor force participation rates is found in Section III of this paper.

Table 15
Employment by Age Distribution, 1980
(000)

Age Group	Employment	Within Age Groups % Male	Within Age Groups % Female	% Total Employment
10 - 14	1,926	59.8	40.2	3.7
15 - 19	5,790	59.7	40.3	11.2
20 - 24	6,914	66.6	33.4	13.4
25 - 29	7,144	71.7	28.3	13.9
30 - 34	5,408	70.2	29.8	10.5
35 - 39	5,819	68.5	31.5	11..
40 - 44	5,160	66.8	33.2	10.0
45 - 49	4,270	65.9	34.1	8.3
50 - 54	3,612	67.4	32.6	7.0
55 - 59	2,121	68.2	31.8	4.1
60 - 64	1,734	68.6	31.4	3.4
65 + *	1,655	70.6	29.4	3.2
	51,553	67.2	32.8	100.0

Source: Population Census 1980, Series S-2, Tables 39.7-9.

* Includes "unstated" of approximately 6,000.

2.40. Employment by Level of Educational Attainment - Two-thirds (67.2%) of employed Indonesians have less than a primary school education. Almost nine out of ten (88.4%) have less than a junior high education. Less than one percent have an academy or university education. The relative degree of educational attainment is noticeably higher for males than females and in urban areas compared to rural areas. Tables 16 and 17 provide a basis of comparison by sex and location.

2.41. Despite constituting less than one-fifth (18.9%) of total employment, urban areas contain from almost one-half to over three-quarters of those employed with educations above the primary level. In general, the higher the level of education, the greater the likelihood that a person is employed in the urban sector. A member of the rural labor force is twice as likely (33.0%) to have never attended school as a member of the urban labor force (15.1%). Almost three-quarters (73.3%) of the rural employed have less than a primary school education compared to 41.4% of the urban employed.

2.42. Females are relatively less educated than their employed male counterparts in aggregate and in both the urban and rural sectors. Nevertheless, although employed urban females generally are considerably less educated than urban males, they are relatively better educated than the rural male. Females are much less likely to be employed than males at any educational level although the probability of employment almost doubles for senior high vocational, academy, and university level training. See Table 2.17 in the statistical appendix for details.

Table 16
Employment by Level of Educational Attainment
Population 10 years of Age and Over, 1980
(000)

Educational Attainment	URBAN			RURAL			ALL INDONESIA		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1. Never Attended School *	649	822	1,471	7,135	6,661	13,796	7,784	7,483	15,267
2. Less than Primary	1,764	790	2,554	12,021	4,825	16,846	13,785	5,615	19,400
3. Primary School	1,947	557	2,504	6,379	2,061	8,440	8,326	2,618	10,944
4. Junior High (Gen.)	809	182	991	873	179	1,052	1,682	361	2,043
5. Junior High (Voc.)	209	43	252	278	57	335	487	100	587
6. Senior High (Gen.)	688	156	844	332	63	395	1,020	219	1,239
7. Senior High (Voc.)	552	236	788	641	226	867	1,193	462	1,655
8. Academy	132	33	165	47	9	56	179	42	221
9. University	128	29	157	34	5	39	162	34	196
	6,878	2,848	9,726	27,740	14,086	41,826	34,618	16,934	51,552

Source: Population Census 1980, Series S-2, Tables 43.1-9.

* Includes approximately 10.2 thousand unstated.

Table 17
Employment by Level of Educational Attainment as a Percentage of Population 10 Years of Age and Over, 1980
(percentage)

Educational Attainment	URBAN			RURAL			ALL INDONESIA		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1. Never Attended School *	9.4	28.9	15.1	25.7	47.3	33.0	22.5	44.2	29.6
2. Less than Primary	25.7	27.7	26.3	43.3	34.3	40.3	39.8	33.2	37.6
3. Primary School	28.3	19.5	25.7	23.0	14.6	20.2	24.1	15.5	21.2
4. Junior High (Gen.)	11.8	6.4	10.2	3.2	1.3	2.5	4.9	2.1	4.0
5. Junior High (Voc.)	3.0	1.5	2.6	1.0	0.4	0.8	1.4	0.6	1.2
6. Senior High (Gen.)	10.0	5.5	8.7	1.2	0.5	0.9	2.9	1.3	2.4
7. Senior High (Voc.)	8.0	8.3	8.1	2.3	1.6	2.1	3.4	2.7	3.2
8. Academy	1.9	1.2	1.7	0.2	-	0.1	0.5	0.2	0.4
9. University	1.9	1.0	1.6	0.1	-	0.1	0.5	0.2	0.4
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Table 16.

* Includes approximately 10.2 thousand unstated.

2.43. Inter-Island Distribution of Employment - The Island of Java alone accounts for almost two-thirds of Indonesian employment. Four islands, Sumatra (18.4%), Java (64.1%), Kalimantan (4.8%), and Sulawesi (5.7%), account for 93% of the total. Aggregate labor force participation rates are relatively stable between islands (42.3%-53.6%), although considerable variation occurs among the provinces on each of the islands (39.4%-58.9%). The degree of urbanization varies from the 10.1% average of the five island provinces making up "all other" to 27.6% for Java. See Table 18 and Table 2.5 in the appendix.

Table 18
Inter-Island Distribution of Employment
Population Age 10 and Over, 1980
(000)

	Urban	Rural	Total	% Total	% Econ. Active	% Urban
Sumacra	1,407	8,098	9,505	18.4	50.4	17.4
Java	7,142	25,884	33,026	64.1	50.8	27.6
Kalimantan	390	2,062	2,452	4.8	53.6	15.9
Sulawesi	421	2,531	2,952	5.7	42.3	14.3
All other*	366	3,252	3,618	7.0	50.5	10.1
Indonesia	9,726	41,827	51,553	100.0	50.2	18.9

Source: Population Census 1980, Series S-2, Table 40.1-9.

* Includes Bali, NTB, NTT, Maluku, and Irian Jaya.

2.44. Even greater variation occurs when provincial labor force participation rates are disaggregated to urban-rural and male-female breakdowns as summarized in Table 19. Cursory examination suggests the largest provincial variations may be substantially explained by the degree of urbanization and by probable cultural-origin differences in female participation. 17/ In general, primarily rural provinces will always have higher participation rates than primarily urban provinces. The range of variation both within and between islands would be considerably narrowed if obvious urban anamolies were excluded, e.g., DKI Jakarta and Yogyakarta on the island of Java. See also Table 2.18 in the appendix.

17/ For example, Sulawesi as a whole and West Java (including Jakarta) have traditionally experienced lower female labor participation rates.

Table 19
Economically Active Population Age 10 Years and Over:
Comparison of Provincial Variations with All Indonesia, 1980
(Percentage)

	Provincial Variation	All Indonesia
Urban		
Male	43.4 - 62.5	59.1
Female	9.4 - 35.4	24.2
Total	31.6 - 47.4	41.5
Rural		
Male	58.7 - 74.5	71.2
Female	13.7 - 50.6	35.2
Total	40.4 - 63.6	52.9
Indonesia		
Male	57.3 - 72.0	68.4
Female	17.2 - 51.0	32.7
Total	39.4 - 58.9	50.2

Source: Population Census 1980, Series S-2, Table 40.1-9.

2.45. Employment by Main Industry [18/] Agriculture was still the principal source of employment for most Indonesians in 1980. Four sectors, including agriculture (56.0%), public services (13.9%), trade (13.0%), and manufacturing (9.1%), accounted for 92.0% of all employment in the economy. See Table 20.

2.46. Agriculture predictably accounted for two-thirds (66.8%) of all rural employment. Including trade (10.2%), public services (9.1%), and manufacturing (7.9%), the same four sectors as in the overall economy accounted for 94.0% of rural employment, although in different proportions. Given the sheer weight of rural employment to total employment (81.1%), it is not surprising that the overall employment structure roughly parallels the rural structure.

18/ Employment for an individual is recorded only for the principal (main) industry in which he or she is employed. A person may have three jobs in three different industries but only the industry associated with the person's principal job will be recorded. Both village level studies and labor force surveys substantiate the existence of multiple job holding, although the former seem to imply that it is far more prevalent than do the latter. The 1976 Sakernas records 15.4% of the employed holding more than one job during the preceding week but with no distinction made by industry.

2.47. The urban employment structure presents a totally different picture, considerably more varied and less dependent on a single economic sector. Nevertheless, employment is heavily concentrated in public services (34.4%) and trade (24.8%). Including manufacturing (14.0%), agriculture (9.2%), transport and communications (7.5%), and construction (5.6%), six sectors account for 95.5% of urban employment.

Table 20
Employment by Main Industry, 1980
(000)

	Urban	Rural	Total	% Urban	% Rural	% Total
Agriculture	898	27,936	28,834	9.2	66.8	56.0
Mining	99	288	387	1.0	0.7	0.7
Manufacturing	1,362	3,318	4,680	14.0	7.9	9.1
Public Utilities	41	25	66	0.4	0.1	0.1
Construction	544	1,113	1,657	5.6	2.7	3.2
Trade	2,405	4,274	6,679	24.8	10.2	13.0
Transpt/Comm.	732	737	1,469	7.5	1.7	2.8
Financial Services	212	90	302	2.2	0.2	0.6
Public Services	3,345	3,800	7,145	34.4	9.1	13.9
Other/Unstated	88	246	334	0.9	0.6	0.6
Total	9,726	41,827	51,533	100.0	100.0	100.0

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

2.48. The relative importance of the urban economy versus the rural economy in terms of employment by economic sector is set out in Table 21. It is clear that although the urban sector accounts for only 18.9% of total employment in the economy, it is the most likely location of employment for the financial services sector (70.2%) and public utilities (62.1%) and is highly significant for transportation and communications (49.8%) and public services (46.8%). With the exception of agriculture (3.1%), all economic sectors are more than proportionately represented in the urban sector compared with the average weight (18.9%) of the sector. Perhaps somewhat suprisingly, only 29.1% of manufacturing employment was located in urban areas. However, since most manufacturing employment (1979) is household/cottage industry (62.2%) or small-scale (18.4%) in origin, its predominately rural location is not, in fact, so surprising.

Table 21
Urban-Rural Shares of Employment
by Main Industry, 1980

	% Urban	% Rural
Agriculture	3.1	96.9
Mining	25.6	74.4
Manufacturing	29.1	70.9
Public Utilities	62.1	37.9
Construction	32.8	67.2
Trade	36.0	64.0
Transpt/Comm.	49.8	50.2
Financial Services	70.2	29.8
Public Services	46.8	53.2
Other/Unstated	26.3	73.7
Total	18.9	81.1

Source: Table 20.

2.49. Employment by Main Occupational Status - Three occupational groups provide jobs for almost nine out of ten (87.7%) Indonesians. Over half (55.3%) the employed are farmers or agricultural workers; almost one-fifth (19.0%) are production and transport equipment operators; and over one-eighth (12.9%) are sales workers. Professional and technical workers account for a respectable 2.9% of the employed workforce, but only slightly more than one out of a thousand (0.1%) are classified as managers and administrators.

2.50. Compared to their proportion in total employment (32.8%), females are over represented among sales (47.8%) and service (51.3%) workers and under represented in managerial and administrative (11.3%), clerical (13.5%), and production and transport equipment operators (26.1%). Nevertheless, in aggregate the same three occupational groups - farmers and agricultural workers, sales workers, and production and transport equipment operators - account for the bulk of employment whether male (87.7%) or female (87.5%). See Table 22.

Table 22
Employment by Main Occupation, 1980
(000)

	Male	Female	Total	% Male	% Female	% Total
Prof. and Technical	963	554	1,517	63.5	36.5	2.9
Managers and Admin.	47	6	53	88.7	11.3	0.1
Clerical	1,550	241	1,791	86.5	13.5	3.5
Sales Workers	3,460	3,168	6,628	52.2	47.8	12.9
Service Workers	1,079	1,135	2,214	48.7	51.3	4.3
Agricultural	19,668	9,099	28,767	68.3	31.7	55.8
Production, Transp. Equip. Operators	7,246	2,553	9,799	73.9	26.1	19.0
Other	363	16	379	95.8	4.2	0.7
Not Stated	242	163	405	59.8	40.2	0.8
Total	34,618	16,935	51,553	67.2	32.8	100.0

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

2.51. It is clear that with the sole exception of farmers and agricultural workers, all other occupational categories are considerably more than proportionately represented in urban areas, whether male or female. Despite providing less than one-fifth (18.9%) of total employment in the economy, the urban sector accounts for more than half of all managers and administrators (73.6%), clerical (59.2%) and service (51.3%) workers, and over one-third of professionals and technicians (42.0%), sales workers (35.7%), and production and transport equipment operators (33.4%). Only the agricultural category (3.1%) is less than proportionate to the overall urban share in employment. While significant differences occur in the percentage of total male and total female employment found in urban areas by occupational category, they do not seriously detract from the overall conclusion drawn above. Table 23 provides details.

Table 23
Urban-Rural Employment by Main Occupation, 1980
(000)

	----- U R B A N -----			----- R U R A L -----			- PERCENTAGE URBAN -		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Professional and Technical	370	267	637	593	287	880	38.4	48.2	42.0
Managers and Administrators	36	3	39	12	2	14	76.6	50.0	73.6
Clerical	873	187	1,060	677	54	731	56.3	77.3	59.2
Sales Workers	1,396	967	2,363	2,063	2,202	4,265	40.3	30.5	35.7
Service Workers	528	607	1,135	551	528	1,079	48.9	53.5	51.3
Agricultural	677	203	880	18,991	8,896	27,887	3.4	2.2	3.1
Production, Transport Equipment Operators	2,705	567	3,272	4,542	1,985	6,527	37.3	22.2	33.4
Other	228	9	237	134	7	141	62.8	56.3	62.5
Not Stated	65	38	103	177	126	303	26.9	23.3	25.4
Total	6,878	2,848	9,726	27,740	14,087	41,827	19.9	16.8	18.9

Source: Population Census 1980, Series S-2, Tables 47.1-9.

2.52. Many additional insights on the occupational structure of Indonesian employment can be gained from a perusal of statistical appendix Tables 2.11, 2.12, and 2.8. It is notable, for example, that the public services sector employed nine out of ten (90.7%) professional and technical workers, seven out of ten (71.1%) clerical workers, and eight out of ten (82.3%) service workers (Table 2.11). It is equally interesting that eight out of ten (84.0%) professionals and technicians, six out of ten (61.2%) managers and administrators, and nine out of ten (91.0%) clerical workers occupy employee status, although only 28.2% of the total employed work force are actually employees (Table 2.12). Similarly, it is of more than passing interest that over one fourth of all professionals and technicians (27.4%) and managers and administrators (32.5%) and one-half (50.0%) of clerical workers have less than a high school education (Table 2.8). Although many additional observations could be drawn from these tables, their presence is merely noted at this time.

2.53. Employment by Employment Status - Over half (51.6%) of all Indonesians are self-employed. Including unpaid family workers, almost seven out of ten (69.5%) either work for themselves or work as unpaid family members. Less than one-third (28.2%) are classified as employees, whether temporary or permanent. Employers, who provide permanent employment for wages or in-kind, account for only 1.7% of the total work force.

2.54. The probable employment status of an Indonesian worker differs dramatically depending on whether he/she is an urban or rural dweller. Urban dwellers, for example, are far more likely to be classified as employees (53.8%) than rural dwellers (22.3%). On the reverse side, rural dwellers are far more likely to be classified as self-employed assisted by family members/temporary help (29.2%) or as unpaid family workers (20.5%) than are urban dwellers (12.7% and 6.6%, respectively). The percentage of unassisted self-employed is roughly the same in both urban (23.1%) and rural (26.1%) areas. See Table 24.

Table 24
Urban-Rural Employment Status, 1980
(000)

	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	5,235	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
	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.

2.55. Females in aggregate are far more likely to be classified as family workers (29.6%) than males (12.1%) and less likely than males to be classified in any other category. However, this generalization does not strictly hold for the urban sector where females are more likely than males to be classified as both unassisted self-employed (23.6% vs. 22.8%) and assisted self-employed (14.5% vs. 12.0%), as well as family workers (12.6% vs. 4.1%). Both males (56.9%) and females (46.3%) are far more likely to be classified as employees than any other employment status in the urban sector. Nevertheless, self-employment plus employment as a family worker are the predominate sources of employment for all males (66.8%) and females (75.1%) in Indonesia. The significantly greater tendency for females to be classified as family workers than males (29.6% vs. 12.1%), rather than as assisted self-employed, may partly be explained by a bias toward classifying males as self-employed (rather than as family workers) whenever a choice arises. See Table 25 for greater detail.

Table 25
Employment Status by Sex, 1980
(000)

	% URBAN		% RURAL		% TOTAL	
	Male	Female	Male	Female	Male	Female
Self-Employed	22.8	23.6	28.6	21.1	27.5	21.6
Self-Employed Assisted by Family Member/ Temporary Help	12.0	14.5	31.0	25.8	27.2	23.9
Employer	3.5	2.1	1.7	0.9	2.1	1.1
Employee	56.9	46.3	24.1	18.6	30.6	23.2
Family Worker	4.1	12.6	14.1	33.0	12.1	29.6
Not Stated	0.7	0.9	0.5	0.6	0.5	0.6
	100.0	100.0	100.0	100.0	100.0	100.0

Source: Population Census 1980, Series S-2, Tables 48.1-8.

2.56. It is not surprising, given the overwhelming share of agriculture in total employment, that the agricultural sector is the single largest employer in all employment status categories. Agriculture accounts for half (50.7%) of the unassisted self-employed, three-quarters (72.4%) of the assisted self-employed, and four-fifths (80.0%) of all family workers. Table 26 suggests that females are relatively unlikely (compared to males) to be classified as unassisted self-employed, assisted self-employed, an employee or as an employer in agriculture but are relatively likely to be family workers.

Table 26
Employment Status in Agriculture, 1980
(000)

	Male	Female	Total	% Share All Employment
Self-employed	5,430	1,238	6,668	50.7
Self-employed Assisted by Family Member/Temporary Help	7,316	2,425	9,741	72.4
Employer	190	52	242	26.9
Employee	3,142	1,575	4,717	32.4
Family Worker	3,581	3,779	7,360	80.0
Not Stated	68	38	106	36.4
	19,727	9,107	28,834	55.9

Source: Population Census 1980, Series S-2, Tables 48.7-9.

2.57. Table 27 shows employment status by main industry. In addition to the statements made above on agriculture, a few other observations are in order. First, almost all workers (89.7%) classified as working in wholesale and retail trade or restaurants are either self-employed or family workers. Second, less than two-thirds (65.4%) of the public services sector are classified as employees. 19/ Almost one-third (31.0%) were either self-employed or worked for the family. Third, although roughly half (47.6%) of manufacturing employment is accounted for by employees, the other half (48.3%) are either self-employed or are family workers.

19/ "Public services" is described as "community, social, and personal services" in explanatory notes in the 1980 census. Presumably all government and military employment are included in this category, although public sector enterprise employment is probably distributed throughout the industrial categories.

Table 27
Employment Status by Industry, 1980
(000)

	All Categories Self-employed*	Employees	Family Workers	Employer	Total
Agriculture	16,515	4,717	7,360	242	28,834
Public Services	1,865	4,672	401	207	7,145
Trade/Restaurants	5,274	553	749	103	6,679
Manufacturing	1,748	2,228	534	170	4,680
All others	1,507	2,377	154	177	4,215
Total	26,909	14,547	9,198	899	51,553

Source: Table 2.10.

* Includes all unstated.

2.58. Table 2.12 in the statistical appendix contains further information on employment status by occupation. An examination of this table suggests that almost all the self-employed are either agricultural workers (61.5%), sales persons (19.8%) or production and transport equipment operators (14.9%); that almost all employers are either in the areas of production and transport equipment operation (42.3%), agriculture (26.8%), or sales (11.3%); that over half of all professional and technical workers (84.0%), managers and administrators (61.2%), clerical (91.0%) and service (59.6%) workers, and others (90.4%) are employees; 20/ and that family workers are almost entirely employed in agriculture (80.0%), sales work (8.0%), or operation of production and transport equipment (8.0%).

2.59. Table 28 makes clear that the higher the level of educational attainment the greater the probability that an Indonesian will work as an employee. It shows that most Indonesians with educational attainment above the primary school level are employees, with the probability ranging from 48.1% to 86.9%. Table 2.9 in the statistical appendix contains further information.

20/ The two major exceptions are sales (7.4%) and agricultural workers (16.3%). Also, not quite half (47.5%) of production and transport equipment operators are employees. Despite the low percentage of agricultural workers and farmers who are classified as employees, in absolute terms agricultural employees are the second largest employee category.

Table 28
Employee Status by Educational Attainment, 1980
(000)

	Employee Status	Total Employment	% Classified as Employees
Never Attended School *	3,025	15,267	19.8
Not Yet Completed Primary	4,528	19,400	23.3
Primary School	3,135	10,944	28.6
Junior High (General)	983	2,044	48.1
Junior High (Vocational)	324	587	55.2
Senior High (General)	869	1,240	70.1
Senior High (Vocational)	1,322	1,654	79.9
Academy	192	221	86.9
University	169	196	86.2
	14,547	51,553	28.2

Source: Table 2.9.

* Includes not stated.

C. Apparent Trends 1971-1980

2.60. The discussion of trends will be based principally on 1971 and 1980 population census data and will cover (i) population growth, (ii) employment by sex and location, (iii) employment by main industry, (iv) labor force participation rates, and (v) unemployment and underemployment. This section will not provide an extensive discussion of trends in employment because of their questionable value, given the data reliability and comparability problems discussed earlier.

2.61. Population Growth - Indonesia's population increased 51%, from 97.0 million to 146.8 million, between 1961 and 1980. The working age population (ages 10+) increased 63%, from 63.9 million to 104.4 million, during the same period. Although now estimated to be slowing, the average annual population growth increased from 2.08% (1961-71) to 2.34% (1971-80). The average growth rate for the working age population was even higher, rising from 2.38% (1961-71) to 2.87% (1971-80). Obviously,

the potential labor force and, hence, the probable needs for employment have grown significantly faster than the overall population growth rate. Population growth in the outer islands has generally been at significantly higher rates than on Java itself. See Table 29.

Table 29
Population Growth, 1961-80
(millions)

	Population			Avg. Growth Rate	
	Total	Ages 10+	Change 10+	Total	Ages 10+
1961	97.0	63.9			
			17.0	2.08	2.38
1971	119.2	80.9			
			23.5	2.34	2.87
1980	146.8	104.4			

Source: IBRD 1983a.

2.62. Employment by Sex and Location - One estimate of employment trends during the period 1971-80 is provided by Table 30. 21/ According to the final census estimates (Series D), employment increased by 37% or 13.9 million during the period 1971-80, an average of over 1.5 million new job holders each year. Annual urban employment (7%) grew much faster than rural employment (2.9%), and female employment (3.8%) grew slightly faster than male employment (3.4%). Total employment grew at an average 3.6%. Despite the much faster growth in urban employment, the rural sector still provided two out of every three (68.2%) new jobs during the period 1971-80. Similarly, despite the faster growth in female employment, males still accounted for almost two out of every three (65.4%) new job holders during the period. Use of Series C data would have resulted in much slower total employment growth (3.1%), in large part because of substantially higher estimates of rural female employment.

21/ The reader should recall that significant differences in trends occur depending on which particular 1971 Population Census series is used. Although the Series D used throughout this section is the final official estimate, some observers (e.g., G.W. Jones:1981) feel that the preliminary Series C provides a better estimate of employment, given the census definitions. We occasionally note the differences implied by Series C data.

Table 30

Employment by Sex and Location, 1971-80
(000)

	-- EMPLOYMENT 1971 --			-- EMPLOYMENT 1980 --			-- % CHANGE 1971-80 --			AVG ANNUAL GROWTH 1971-80		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Male	3,894	21,622	25,516	6,878	27,740	34,618	76.6	28.3	35.7	6.5	2.8	3.4
Female	1,400	10,712	12,112	2,848	14,087	16,935	103.4	31.5	39.8	8.2	3.1	3.8
Total	5,294	32,334	37,628	9,726	41,827	51,553	83.7	29.4	37.0	7.0	2.9	3.6

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

2.63. Employment by Main Industry - Changes in the employment structure for the period 1971-80 by main industry groupings are shown in Table 31. The ten point decline occuring in agricultural employment, from 66.3% to 55.9%, was the single largest shift occuring in the employment structure during the 1971-80 period. Three sectors, manufacturing, trade and restaurants, and social and personal services, largely offset the decline in agriculture's share by increasing their own shares by an average of 2.3, 2.2, and 3.6 points, respectively.

2.64. Although the mining, insurance and finance, and construction sectors had noticeably higher employment growth rates, the major sources of new employment during the 1971-80 period were agriculture (28.0%), social and personal services (23.5%), trade, hotel and restaurants (18.7%), and manufacturing (15.1%). Together, these four industries provided over 85% of new jobs during the nine year period. Despite the agricultural sector's significance as a source of new employment, it was notable for being the only industry in which growth in employment fell below the average total growth rate of 3.6%. Use of Series C data would have reduced the estimated growth in manufacturing employment and, some observers believe, in agricultural employment. Table 31a shows the estimated employment structure by main industry 1961-80, using Series C data for 1971.

Table 31
Changes in Industry Employment Structure, 1971-80
(000)

	EMPLOYMENT (000)		% SHARE EMPLOYMENT		Change in Employment	% Share Change	Avg. Annual Sectoral Growth
	1971	1980	1971	1980	1971-80	1971-80	Rates (%)
Agriculture	24,936	28,834	66.3	55.9	3,898	28.0	1.6
Mining	80	387	0.2	0.8	307	2.2	19.1
Manufacturing	2,573	4,680	6.8	9.1	2,107	15.1	6.9
Public Utilities	35	66	0.1	0.1	31	0.2	7.3
Construction	640	1,657	1.7	3.2	1,017	7.3	11.1
Trade, Hotel and Restaurants	4,077	6,679	10.8	13.0	2,602	18.7	5.6
Transportation and Communications	901	1,469	2.4	2.8	568	4.1	5.6
Insurance, Finance, etc.	87	302	0.2	0.6	215	1.6	14.8
Social and Personal Services	3,870	7,145	10.3	13.9	3,275	23.5	7.1
Not Adequately Stated	429	334	1.2	0.6	(95)	(0.7)	- 2.7
	37,628	51,553	100.0	100.0	13,925	100.0	3.6

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

Table 31a
Percentage Distribution of Employment
by Main Industry, 1961-80

	1961	1971c	1980
Agriculture	71.9	63.4	54.8
Mining	0.3	0.2	0.7
Manufacturing	5.7	7.5	8.5
Transpt. & Public Utilities	2.3	2.4	3.0
Construction	1.8	1.9	3.1
Trade	6.7	10.7	12.9
Services	9.5	9.9	15.6
Unknown	1.9	4.1	1.3
Total	100.0	100.0	100.0

Source: IBRD 1983a, p. 64

2.65. Labor Force Participation Rates - Labor force participation rates is a subject unto itself. As noted in the earlier section on data sources, some observers (including IBRD:1983a) conclude that labor force participation rates have essentially remained constant during the 1971-80 period, although the actual levels may be open to debate depending on whether one subscribes to census or labor force survey data. Table 32 sets out selected labor force participation rates for males and females with an urban-rural breakdown for both census and labor force survey data.

2.66. The population census data suggest that the labor force participation rate for the working age population (ages 10+) has remained relatively, but not totally, constant between 1971 and 1980. The male participation rate appears to have slightly decreased in both the rural (1.7 points) and the urban (1.4 points) sectors. The female participation rate appears to have slightly decreased in the rural sector (0.7 points) and to have slightly increased in the urban sector (1.1 points). The total labor force participation rate appears to have decreased by 1.1 points. If, however, the 1971 population Series C data were to be used, both rural male and female participation rates, as well as the total labor force participation rate, would have slightly increased rather than decreased. In sum, although the trends on the basis of population census data are not totally clear, it would appear reasonable to conclude that the total labor force participation rate was essentially constant from 1971 to 1980.

2.67. Despite greater variation, an examination of labor force survey data in Table 32 (as opposed to census data) also suggests a relative constancy in labor force participation rates, primarily because of the absence of clear trends. The labor force surveys consistently estimate higher labor force participation rates than the 1971 and 1980 population censuses. The relative difference in the participation rates for the two sets of data sources can be significant, ranging from approximately 1-16 percentage points depending on the particular comparison being made. See Table 2.13 in the statistical appendix for age-specific labor force participation rates and data for additional time periods.

Table 32
Labor Force Participation Rates for Population 10 Years of Age and Over, 1971-1981
(000)

	Census 1971 (D) IV	Sakernas 1976 IV	Sakernas 1977 IV	Sakernas 1978 IV	Sakernas 1979 IV	Census 1980 IV	Susenas 1981
Rural							
Male	72.3	76.3	74.5	75.3	76.5	70.6	
Female	35.3	39.5	37.0	40.3	39.1	34.6	
Urban							
Male	61.4	63.2	61.4	62.9	61.9	60.0	
Female	22.9	25.1	24.4	28.1	23.8	24.0	
All Indonesia 1/							
Male	70.3	73.8	72.6	74.5	74.4	68.4	73.5
Female	33.1	36.8	35.5	39.8	36.9	32.7	41.9
Total	51.3	54.9	53.7	56.7	55.3	50.2	57.4

Source: Wages and Employment in Indonesia, IBRD:1973, p. 62.
Proyeksi Angkatan Kerja Indonesia 1983-2001, Biro Pusat Statistik, 1983.

1/ All-Indonesia statistics reflect yearly rather than 4th quarter data for 1977, 1978, 1979. The period of collection for 1981 Susenas has not yet been determined.

2.68. Unemployment and Underemployment - Great hazards lie in wait for those interpreting unemployment rates by taking census data at face value. Table 33 amply illustrates the pitfalls in this approach. In the absence of one or the other of the two widely divergent 1971 data series, a casual observer would draw significantly different conclusions on trends over the period 1961 to 1980. If the observer were further aware of the widely divergent reference and cut-off periods used to define employment in 1961 (and, hence, unemployment) compared to the 1971 and 1980 censuses, the interpretation would become even more clouded. 22/

Table 33
Open Unemployment Rates, 1961-80
(percent)

	1961	1971 C	1971 D	1980
Urban				
Male	7.4	4.9	10.7	2.7
Female	11.8	4.5	17.1	3.0
Total	8.6	4.8	12.5	2.7
Rural				
Male	4.4	1.9	6.8	1.0
Female	6.3	1.4	10.7	2.1
Total	4.9	1.7	8.2	1.4
Indonesia				
Male	4.8	2.4	7.5	1.4
Female	7.0	1.8	11.5	2.2
Total	5.4	2.2	8.8	1.7

Source: Based on census data--Table 10 and Table 2.14.

2.69. There are probably few conclusions that can be comfortably drawn on trends in umemployment rates in Indonesia on the basis of census employment data. For example, there are reasons to believe that 1961 unemployment rates would be even higher if employment had been defined on the same basis as in 1971 or 1980. Since the lower 1971 Series C rates are considered to be more in line with the intent of census definitions, an upward adjusted 1961 set of rates combined with 1971 Series C and 1980

22/ See both Section III and the earlier discussion on data comparability in paragraphs 2.04-2.06.

data would imply a dramatic improvement in employment. Even in the absence of an upward adjustment for 1961, simply ignoring the 1971 Series D data implies an improving employment situation over the 1961-80 period. On the other hand, use of the 1971 Series D data suggests a substantial worsening in the unemployment situation between 1961-71, followed by a dramatic improvement between 1971-80.

2.70. Comparison of the more recent unemployment rates generated from the sample labor force surveys (1976-79) suggest a relative constancy in open unemployment rates for the period in question. Labor force survey unemployment rates (1976-79) are roughly comparable to the 1971 Series C and 1980 census rates, although urban unemployment rates for both males and females are noticeably higher in the labor force surveys. See Table 34 for details.

Table 34
Census and Labor Force Survey Unemployment Rates, 1961-80
(percent)

		-- U R B A N --		-- R U R A L --		
		Male	Female	Male	Female	Total
Census	1961	7.4	11.8	4.4	6.3	5.4
Census	1971 C	4.9	4.5	1.9	1.4	2.2
Census	1971 D	10.7	17.1	6.9	10.7	8.8
Supas	1976 I	5.4	5.9	1.2	1.5	
Sakernas	1976 IV	6.9	5.1	1.9	1.1	2.3
Sakernas	1977 I	7.0	5.7	1.9	1.0	2.3
	1977 II	6.4	5.4	1.8	1.3	2.3
	1977 III	5.9	4.9	1.7	0.8	2.0
	1977 IV	6.2	5.7	2.0	1.2	2.4
Sakernas	1978 I	7.2	4.6	2.5	1.7	2.8
	1978 II	6.9	3.5	2.2	1.5	2.5
	1978 III	6.6	3.5	1.7	1.1	2.1
	1978 IV	7.4	3.8	1.9	1.4	2.4
Sakernas	1979 I	8.4	6.8	2.8	1.5	2.2
	1979 IV	7.3	6.9	2.8	2.3	2.3
Census	1980 IV	2.7	3.0	1.0	2.1	1.7

Source: IBRD:1983a.

2.71. Regardless of the particular time period chosen, certain general characteristics in unemployment rates emerge. First, female unemployment rates tend to be higher than male unemployment rates according to census data (except 1971 C data) but not according to labor force survey data. Second, urban unemployment rates are universally (and substantially) higher than rural unemployment rates, regardless of the particular comparison being made. Third, unemployment rates are notably higher for the relatively young, and to a lesser degree for the relatively old, than for the age group 30-54 years.

2.72. The statistics on underemployment (i.e., the employed population working less than 35 hours per week) are relatively few and appear to be limited to the 1980 census and the Sakernas/Susenas labor force surveys. The statistics summarized in Table 35 suggest a possible upward trend in underemployment, particularly if only the labor force surveys are compared. However, because of the basic problems in data comparability mentioned earlier, the brown leaf hopper crises in rice cultivation during the period 1974-78, and the relatively short period under observation (if we exclude the 1964/65 data), it is probably not judicious to draw too firm a conclusion on trends at this time. The subjects of unemployment and underemployment will be dealt with extensively in the following section, which examines the nature and shape of the employment problem.

Table 35
Percentage Employed Population
Working Less Than 35 Hours per Week, 1965-80

	Male	Female	Urban	Rural	Total
1964-5	22.4	39.0	18.1	28.9	27.9
1976	25.6	43.6	15.7	34.6	31.7
1977	24.7	42.7	14.1	33.8	30.8
1978	30.0	48.2	17.7	40.0	36.6
1980	29.7	50.5	18.3	40.8	36.5

Source: Table 2.16 and Table 45.

III. NATURE AND SHAPE OF THE EMPLOYMENT PROBLEM

3.01. Almost everyone (donors, press, academics, and the GOI) seems to agree that a serious employment problem exists in Indonesia and that it is worsening. For the sake of clarity, we will re-examine the conventional wisdom regarding the existing problem. This section of the paper will address four sets of questions: (i) what defines the employment problem; (ii) what defines the adequacy of employment; (iii) who are the unemployed/underemployed/underutilized/etc.; and (iv) who wants to work, is looking for work, "needs" to work. Section IV of the paper asks the next logical question--will the employment problem worsen?

A. Defining the Employment Problem

3.02. The study of employment, like many endeavors in economics, is plagued by conceptual dilemmas long before problems in measurement are encountered. Some of the issues are well known--the failure to include household services as employment or part of GDP, if performed by a member of the household, is the classic example. A member from outside the household performing the same services at the same implicit remuneration or share of "product" is both employed and contributing to the national product according to the standard definitions. In principle, if everyone's spouses and children simply traded their household role with their neighboring counterpart, a dramatic increase in both employment and national product would occur (by existing definitions) despite there being no additional increase in services or expenditure of effort. Similarly, even a slight reshuffling of duties within a household could, in principle, cause all members above the age of ten to be defined as employed even if no net increase in any activity occurred. For that matter, a decrease in all activities could occur, yet measured employment would have increased.

3.03. The problem and contradictions of what constitutes employment, and, therefore, what constitutes the employment problem, go even deeper. We have already noted that a person can be designated as employed by working as little as one hour in the week preceding the employment survey. That person is weighted equally in employment statistics with a person working 60+ hours in a week--both are simply defined as being employed. We have also noted that the reference period has ranged from the day of the survey, to the preceding week, to the preceding six months and that the cut-off for determining employment status has ranged from one hour in the preceding week, to two days (hours unspecified) in the preceding week, to two months (neither days nor hours specified) in the preceding six months. It is obvious, in practice, that even the simple time parameters for defining employment are quite arbitrary.

3.04. Needless to say, the same arbitrary quality holds true in terms of selecting the age groups defining the potential workforce. Indonesian employment statistics and, therefore, typical considerations of the employment problem, focus on all people who are above the age of 9 years. Just how seriously should we take the 10-14 year-olds that are defined as part of the work force and that are "underemployed" or "unemployed"? Similarly, what about those who are age 60 years and over? In some countries neither of these age groups might be included for consideration. While the welfare of the total population is

obviously of concern, should not we in fact carefully distinguish between marginal members of the labor force and primary members of the labor force in interpreting the employment problem?

3.05. To carry our point one step further, consider the member of the household who may provide marginal assistance to the family farm, to the family business or cottage industry, or may simply hold part-time or temporary employment outside the family. That individual may essentially be a full-time housewife, student, or retired person (or child) who has given a few hours of time that happen to be defined statistically as employment. These people may not be part of the mainstream/primary work force and may not want or have any intention of becoming part of the primary workforce. Qualitatively, their work or level/intensity of effort may only be a fraction of that of a primary member of the workforce. Nevertheless these people become part of the employment statistic. Significant changes in their number, for whatever reason (whether being pushed by desperation or pulled by opportunity), could in principle materially affect the interpretation of employment statistics and, hence, the employment problem.

3.06. Depending on the observer, the "employment problem" tends to mean very different things. It may mean the degree of unemployment, the degree of underemployment, the numbers of "discouraged workers," trends in labor force participation rates, trends in real wage rates and so forth. A given analyst or commentator may focus on any or all such measures and may examine the statistics cursorily or in depth. In general, however, the causal observer is more likely to use and interpret employment statistics in an uncritical manner. Further, it is doubtful that the many factors that might potentially define the employment problem, if taken together, can or will be examined within the same analysis by even the professional analyst. We will attempt to examine some of the traditional measures (or indicators) of the employment problem in Part C of this section. Before doing so, however, we wish to digress momentarily and examine whether there may be a more comprehensive measure/indicator of the employment problem than any of the previous statistics reveal.

B. The Adequacy of Employment

3.07. In discussing the employment problem and supposedly measuring it, we implicitly must have some concept in mind that allows us to measure the adequacy of employment. It will be argued that adequacy of employment is probably best measured by the level of family income, not the number of people employed, the number of people unemployed, the number of people underemployed, the number of hours worked, wage rates, incomes from a specific activity (such as rice farming), or even total earned income of an individual. Although all of the above measures (and others) by themselves bring important information to bear on the question of employment adequacy, it is argued here that changes in the economic viability of the family or household unit, not that of each employed individual, is the ultimate measure of the "employment problem."

3.08. The principal reason for holding employment for the overwhelming majority of the Indonesian work force is the expectation of income. It is income, not employment per se, that is desirable. Employment is only

a means to an important end, i.e., the maintenance or improvement of a standard of living and, probably, survival.

3.09. It is total family income (rather than individual income) in a country like Indonesia, however, that is the best predictor of an individual's chances for survival or of improving his actual standard of living. The existence of both the extended family social security system and the prevalence of multiple job holding by individuals (both at points in time and across time) seriously hamper the interpretation of statistics on employment, unemployment, underemployment and wages, for the purpose of drawing conclusions on overall societal welfare. Nevertheless, this is usually exactly what we are trying to do--draw conclusions on changes in societal welfare--when we make statements about the employment problem.

3.10. Table 36 provides some inkling of the potential confusion in attempting to draw conclusions about employment. Generally, we are only looking at some of the factors/variables that impinge on the overall income/welfare measure we have in mind when we speak of the employment problem. We may have employment estimates and hours worked and perhaps partial and disjointed wage data, but we are not able to say that individuals are earning more or less from the sum total of their labor activities. Even if we knew this, an individual's effective income/welfare is not really known unless we know something about the intra-household/family transfers. The effective income share of a given individual may be higher or lower than his personal earnings, depending on whether he or she is a marginal or principal income earner in a family.

Table 36
Measures of the Employment Problem --
Some Alternatives and Considerations

Individual Level
1. Real wage rates
2. Hours worked per day
3. Days worked per year
4. Number of different jobs held
5. Income from specific job
6. Income from all employment
7. Share in household income

Household Level
1. Number employed in household
2. All of the above for employed members
3. Average household income/expenditure share

Aggregate Level
1. Numbers holding employment
2. Numbers unemployed
3. Numbers of underemployed
4. Numbers of "discouraged workers"
5. Hours employed per week
6. Real wage rates by major sectors
7. Per capita income from employment
8. Per capita national income
9. Levels/distribution of household expenditure

3.11. The point about effective income share is particularly important to keep in mind when we look at statistics on underemployment. The implication of the term is that people are not fully employed and, thus, are probably part of the employment problem. This may or may not be true (the point will be examined extensively later in this section) but it is certainly easy to see that average per capita household/family incomes could be rising at the same time that underemployment and even unemployment are also rising. The question could then be posed--has the employment problem worsened? Underemployment statistics would say yes, household income would say no. Similarly, envision the above with constant or even declining real wages--has the employment problem worsened if average per capita household incomes still rise? Has it worsened if the above holds true and Gini coefficients suggest that household income distribution is not worsening? Again, our traditional measures probably say yes, and the household income measure says no.

3.12. How could the above happen? Quite simply, we do not know the total quantity of work, nor the wage rates for the various categories, nor the total earned incomes. Yet we are trying to draw conclusions on whether the employment situation is worsening. The problem is that we only have information on part of the variables, and unless they are analyzed very carefully, the information can be misleading.

3.13. Thus far we have emphasized the importance of household or family income as the potential ultimate determinate of how societal welfare (and, hence, the employment problem) is changing. However, by this measure alone it would be possible to increase earned incomes (and our proposed measure of welfare) simply by increasing the total quantity of labor input. Unless we argue that leisure has no value we must acknowledge that an employment problem can also exist if average hourly labor productivity, measured by the average real wage rate, is declining--despite rising household incomes. This would indeed be a cause for serious concern. Presumably, however, this type of situation would ultimately erode average real household earnings and, hence, show up in the proposed primary indicator of the employment problem. Nevertheless, along with the level of family incomes, average hourly labor productivity (as measured by real wage rates) should be considered as one of the principal measures of the employment problem.

3.14. The purpose of the foregoing discussion has been to create greater caution in accepting too facile interpretations of traditional employment statistics. Although we believe household incomes to be a better overall measure of the employment problem, we are not unaware of its own measurement and conceptual problems--including non-earned income components. Nevertheless, we believe any examination of employment trends should be carefully reconciled to changes in household incomes/expenditures and their distribution. Next, we interpret some of the more traditional and more partial measures of the employment problem.

C. The Unemployed, Underemployed and Others

3.15. The question asked here is--who are the employment problem and how big is it? We will attempt to address this question by scrutinizing some

of the traditional measures of the employment problem such as unemployment, underemployment, and the discouraged worker. We then attempt to draw conclusions on the number of equivalent full time jobs necessary to eliminate the existing employment problem as suggested by these traditional measures, but only after taking into account probable alternative demands on workers' time, including preferences for leisure. Despite our earlier comments on the importance of income, we will not attempt to consider wage rates or household incomes/expenditures until Part D of this section.

3.16. Unemployment as an Employment Problem - Although unemployment grabs the headlines in the richer parts of the world, it is generally not considered a major problem in the Third World. More precisely, measured open unemployment is generally low in countries such as Indonesia because the "employment problem" assumes other forms. Work tends to be shared. Few people can afford the luxury of unemployment. Every bit of income is a plus to the family income pool, no matter how small. In sum, most individuals cannot afford unemployment by definition and will be employed in some capacity, no matter how inadequate, in order to make some contribution to family income.

3.17. Table 37 indicates that Indonesia is no exception to the general rule on open unemployment in the Third World. The total unemployment rate is only 1.7%. Although the relationships between male (1.4%) and female (2.2%) unemployment rates, between urban (2.8%) and rural (1.4%) unemployment rates, and between the young (higher) and the older (lower) hold as expected, none of the rates as measured in the 1980 census can be considered unusually high. 23/ If we make almost any type of allowance for frictional unemployment (normal search time between jobs and in obtaining a first job) then we must conclude that aggregate open unemployment is not an employment problem in Indonesia. Nevertheless, it is important to keep in mind that unemployment is defined as those who are looking for work and measured by those who say they are looking for work. The concept does not measure the discouraged worker or perhaps the "reticent unemployed." We will attempt to examine this question in a following section.

23/ Although unemployment rates are higher in the labor force surveys, they are still relatively low in comparison to unemployment rates in the USA or Europe. An important exception may be the relatively high (11-13%) unemployment rates among secondary school graduates. Nevertheless, it is important to keep in mind the relatively small absolute numbers of unemployed secondary school graduates, despite their presumed significance for urban political stability.

Table 37
Open Unemployment Rates, 1980
(percentage)

Age Group	URBAN			RURAL			ALL-INDONESIA		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
10 - 14	5.8	4.7	5.2	2.3	3.7	2.9	2.5	3.8	3.0
15 - 19	8.2	5.7	7.0	2.6	3.7	3.0	3.4	4.1	3.7
20 - 24	6.8	6.5	6.7	1.8	2.9	2.2	3.1	3.7	3.3
25 - 29	2.3	2.6	2.4	0.9	2.0	1.2	2.2	2.1	1.5
30 - 34	1.1	1.5	1.2	0.6	1.7	0.9	0.7	1.7	1.0
35 - 39	0.8	1.0	0.8	0.5	1.5	0.8	0.6	1.4	1.2
40 - 44	0.7	0.7	0.7	0.5	1.4	0.8	0.5	2.3	0.8
45 - 49	0.8	0.7	0.8	0.5	1.3	0.7	0.5	2.2	0.8
50 - 54	1.1	0.8	1.0	0.5	1.3	0.7	0.6	2.2	0.8
55 - 59	1.2	0.6	1.0	0.5	1.2	0.7	0.6	2.1	0.8
60 - 64	1.1	0.7	1.0	0.5	1.1	0.7	0.6	1.0	0.7
65 +	0.8	0.8	0.8	0.5	1.1	0.7	0.5	1.1	0.7
Not Stated	2.3	-	1.6	1.0	12.3	3.2	1.2	8.9	2.9
Total	2.7	3.0	2.8	1.0	2.1	1.4	1.4	2.2	1.7

Source: Population Census 1980, Series S-2, Tables 39.1-9.

3.18. Underemployment as an Employment Problem - Underemployment poses the largest and one of the more interesting sets of questions relating to the shape and nature of the employment problem. On the surface, the sheer number of underemployed, 36.5% of the employed work force in 1980, is cause for great concern. It is very difficult not to believe that something is seriously wrong when well over one-third of the employed workforce is implied to be less than fully employed. Indeed, it is the term "underemployment" itself, perhaps more than the size of the associated statistic, that causes alarm. The term suggests that people are not fully employed and want to work more and that possibly they are in desperate straits or living at the margin. If we used the term "part-time employment" a different picture comes to mind, one that is certainly less ominous.

3.19. Therefore, perhaps the best place to start an assessment of underemployment is with the definition itself, i.e., those employed but working less than 35 hours per week. In effect, someone drew a dividing line and said those working less than 35 hours per week are underemployed and those working 35 hours per week or more are not. The term "underemployed" does not say outright or explicitly include in its definition that it is "bad" to work less than 35 hours per week, that those occupying this classification should be morally compelled to be more fully employed, that those working less than 35 hours a week cannot possibly be earning a living, or that in any way the magnitude of this statistic should be a cause for alarm. Nevertheless, any or all of the above may be assumed/concluded by the casual user of the statistic. As we have noted earlier, the underemployment statistic is often cited as an important indicator of the seriousness of the employment problem. To assess the validity of this belief we will take a very close look at a variety of statistics on the subject drawn from the 1980 census. (Despite our misgivings on the term underemployment, we will follow convention and continue to use it in reference to those who are employed but working less than 35 hours per week.)

3.20. Table 38 reveals that underemployment in Indonesia is no small number. Over 18.8 million (36.5%) of the total employed were classified as working less than 35 hours per week in the 1980 census. Perhaps surprisingly, the vast majority (90.5%) of the underemployed were located in rural areas (compared to the rural sector's overall weight of 81.1% in employment). Perhaps less surprisingly, females accounted for close to half (45.4%) of the underemployed, despite comprising only 32.8% of total employment. The share of females in total urban (42.1%) and total rural (45.8%) underemployment was roughly the same. Somewhat surprisingly, however, the degree of female under-employment was significantly greater in the rural areas. See Table 39.

Table 38
Magnitude of Underemployment, 1980
(000)

	Urban	Rural	Total
Male	1,031	9,242	10,273
Female	751	7,803	8,554
Total	1,782	17,045	18,827

Source: Table 3.1.

3.21. Table 39 reveals a number of significant aspects relating to underemployment and total hours worked in general. It is clear that the degree of underemployment varies dramatically between the urban (18.3%) and rural (40.8%) sectors, between males (29.7%) and females (50.5%), between urban males (15.0%) and rural males (33.3%), and between urban females (26.4%) and rural females (55.5%). Clearly the most striking aspect of the information in Tables 38 and 39 is that underemployment, to the extent that it is a problem, is largely a rural phenomenon and to a very important degree a female phenomenon. It is clear from Table 39 that urban workers are primarily full-time workers and, if anything, overemployed compared to their rural counterparts.

Table 39
Employment by Total Hours Worked Per Week --
Population Age 10 Years and Over, 1980
(percentage)

	Part-Time Employed 0-34 hours	Full-Time Employed 35 hours +	The Over * Employed 60 hours +
Urban			
Male	15.0	85.0	(21.1)
Female	26.4	73.6	(23.4)
Total	18.3	81.7	(21.8)
Rural			
Male	33.3	66.7	(10.9)
Female	55.5	44.5	(6.5)
Total	40.8	51.1	(9.4)
All Indonesia			
Male	29.7	70.3	(12.9)
Female	50.5	49.5	(9.3)
Total	36.5	73.5	(11.7)

Source: Table 3.1b.

* Included also in the "full-time" column.

3.22. Table 40 expands on the last point. It suggests that urban workers tend on average to work significantly longer hours than rural workers. Only in the middle range (35-44 hours) do the percentages of urban and rural workers approximate their shares in total employment. Above 44 hours the percentage of urban workers is significantly larger than and below 35 hours significantly lower than their 18.9% share in total employment. The reverse situation is true for the rural sector.

3.23. Table 3.1 in the statistical appendix suggests, however, that the heavy weighting of rural female employment in the under 35 hours category

and relative absence in the 35 hours and above category explains most of the variation in the relative intensity of hours spent in urban-rural employment. Table 41 also supports this explanation and makes it easy to see the relative importance of the female worker in each of the major hourly categories for urban, rural, and total employment.

Table 40
Share of Employment by Hourly Categories, 1980
(percentage)

Hours Worked/Week	Urban	Rural
0	12.7	87.3
1 - 9	10.6	89.4
10 - 24	8.4	91.8
25 - 34	9.9	90.1
35 - 44	18.2	81.8
45 - 59	25.9	74.1
60 +	35.0	65.0
Total employment	18.9	81.1

Source: Table 3.1a.

Table 41

Distribution of Employment by Hours Worked, Sex, and Urban-Rural Location, 1980
(percentage)

	- U R B A N -		- R U R A L -		- T O T A L -	
Hours Worked/Week	Male	Female	Male	Female	Male	Female
0 - 9	7.0	4.5	42.6	45.8	49.7	50.3
10 - 24	4.5	3.9	46.6	45.0	51.1	48.9
25 - 34	6.0	3.9	55.4	34.7	61.4	38.6
35 - 44	13.3	4.9	58.3	23.5	71.6	28.4
45 - 59	20.3	5.6	58.8	15.3	79.1	20.9
60 +	24.0	11.0	49.9	15.1	73.9	26.1
Total Employed	13.3	5.6	53.8	27.3	67.1	32.9

Source: Table 3.1a.

3.24. A slightly different perspective is provided by Table 42, which shows the relative importance of the hourly work groupings to the male workforce, the female workforce, and to total employment. Clearly, far more of the female work force is engaged in part-time employment (50.5%) (less than 35 hours per week) than the male workforce (29.7%), and vice-versa for above 35 hours per week.

Table 42
Percentage of Employment by Hours Worked, 1980

Hours Worked/Week	--- ALL-INDONESIA --- 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 +	12.9	9.3	11.7
Not Stated	0.8	1.5	1.0
Total	100.0	100.0	100.0

Source: Table 3.16.

3.25. Table 43 provides a different, but highly useful, picture of the distribution of part-time/underemployment in Indonesia. Although not broken down by sex, the table shows that most part-time employment falls in the 10-24 hour per week range (47.6%), followed by the 25-34 hour range (35.9%). It also shows that slightly over half (52.0%) of all part-time employment is held by ages 10-29 and ages 60+. The core working groups of ages 30-59 hold 48.0% of part-time employment. Table 44 shows a reduced version of Table 43 broken down by percentage distribution.

Table 43
Underemployment by Age Group and Hours Worked, 1980
(000)

	------ 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: Table 3.2.

Table 44
Percentage of Total Underemployment
by Age Group and Total Hours Worked, 1980

	HOURS WORKED			
	0 - 9	10 - 24	25 - 34	Total
Ages 10 - 29	7.2	21.3	14.8	43.3
Ages 30 - 59	7.7	21.9	18.4	48.0
Ages 60+	1.6	4.4	2.7	8.7
Total	16.5	47.6	35.9	100.0

Source: Table 42.

3.26. One final but extensive look at part-time/underemployment, before we begin the assessment of how serious an employment problem it may represent, is provided in Table 45. Table 45 shows the rate of underemployment (i.e., the percentage of those classified as employed but working less than 35 hours) by age group, by urban-rural location, and sex. Although all of the information presented prior to this point is consistent with Table 45, the information provided by this particular breakdown is--in a word--devastating. Table 45 clearly shows the significance of what appear to be the three principal determinants of a person's likelihood of being underemployed: their age, their sex, and their urban-rural location.

3.27. Table 45 shows that the likelihood of being underemployed tends to be highest for the young and the old, females--whether urban or rural, and rural dwellers--whether male or female, of whatever age. Table 45, plus the knowledge of the absolute share of the rural sector in total employment, leaves no doubt that if underemployment is truly a problem, then it is primarily a rural problem.

Table 45
Rates of Underemployment, 1980
(percentage)

Age Group	URBAN			RURAL			ALL-INDONESIA		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
10 - 14	42.6	29.5	35.2	64.1	67.4	65.6	63.3	63.6	63.4
15 - 19	19.0	16.8	17.9	40.6	52.5	45.2	37.6	45.9	40.9
20 - 24	13.2	21.8	15.8	30.3	54.2	38.5	26.3	47.6	33.4
25 - 29	12.0	25.3	15.1	28.0	55.5	36.2	22.9	49.9	31.5
30 - 34	12.2	28.0	15.9	27.9	54.9	36.4	24.2	50.3	32.0
35 - 39	12.5	29.8	16.8	28.4	54.1	36.9	24.9	50.2	32.9
40 - 44	13.4	29.8	17.9	28.9	53.4	37.4	25.5	49.5	33.5
45 - 49	14.9	30.6	19.6	29.9	53.4	38.1	27.0	49.8	34.8
50 - 54	17.9	31.2	21.7	32.7	55.8	40.4	29.9	52.0	37.2
55 - 59	22.6	33.9	25.8	35.5	56.8	42.4	33.3	53.4	39.7
60 - 64	27.7	34.5	29.7	41.3	60.0	47.2	39.4	56.6	44.8
65 +	34.3	40.1	36.2	49.7	64.5	54.0	47.9	61.3	51.8
Total	15.0	26.4	18.3	33.3	55.5	40.8	29.7	50.5	36.5

Source: Population Census 1980, Series S, No. 2, Tables 56.1-9.

3.28. But that is the question--do those working less than 35 hours per week represent an employment problem? Or do they represent marginal or part-time workers who neither want nor need to work additional hours? Are they principally secondary/supplemental family income sources or are they primary income earners who cannot obtain sufficient employment? Although we will not be able to answer these questions definitively, we will present the case for discounting the high percentages of the underemployed as being anything near the problem that the aggregate statistic (36.5%) might suggest.

3.29. At one level the case against underemployment as a serious employment problem has been implicitly constructed in the preceding pages and statistics. First, we saw that almost half (45.5%) the underemployed are female. The question has to be asked--are these women who wish to be full-time workers or are these women who are working part-time in addition to keeping house, taking care of a family, "being a child," or going to school? Second, we have seen that a significant proportion of the underemployed are either relatively young (43.3%) or relatively old (8.7%). The question must be asked--are members of these age groups expected to be primary income earners or merely supplemental earners? Are these people children, students, or young people still dependent on their families for part of their support? Are they the basically retired or semi-retired, dependent in part on their children and/or their savings? Do any of these particular groups want or need more employment?

3.30. In point of fact, the 1980 census suggests that very few of the underemployed, including prime age males, may have actually wanted more work. Table 46 shows that only 7.8% of those classified as being underemployed were actually looking for other or additional work. This amounts to 1.5 million people or a full-time equivalent of perhaps 0.6 million jobs. Although this does not necessarily mean that the employment problem is limited to these individuals among the underemployed (possibly the rest are "discouraged lookers"), it does suggest that the statistic should be examined very closely before leaping to possibly careless and gloomy conclusions.

Table 46
The Underemployed Portion of Work Force
by Those Looking for Work or Reasons for Not Looking, 1980 *
(percentage)

	HOURS WORKED				
	0	1 - 9	10 - 24	25 - 34	Total
Looking for Work	8.4	6.5	7.9	8.0	7.8
Reason Not Looking					
* Thought No Need	26.4	35.3	42.3	54.9	45.0
* Lost Hope	0.2	0.3	0.3	0.3	0.3
* Attending School	2.0	9.9	5.8	1.1	4.2
* Housekeeping	29.7	25.5	22.1	15.0	20.4
* Not Capable	5.5	6.7	5.1	4.2	5.0
* Other	26.5	15.4	16.2	16.4	17.0
* Not Stated	1.3	0.4	0.3	0.1	0.3
Total	100.0	100.0	100.0	100.0	100.0
% of Total Underemployed	7.5	9.0	47.6	35.9	100.0

Source: Table 3.9.

* Looking for other or additional work.

3.31. Table 46 presents additional information that largely strengthens the case against underemployment being a serious employment problem. It shows that the percentage looking for work is remarkably constant, regardless of the hours being worked. It shows that almost half (45.0%) of the underemployed felt there was "no need" to look for work, that one fifth (20.4%) cited housework and another 4.2% cited school as reasons for not looking for work. The only possibly suspicious categories cited as reasons for not looking for work were "other" (17.0%) and "not capable" (5.0%). Nevertheless, the explicit category "lost hope" and its extremely low percentage (0.3%) either suggests that truly only 7.8% of the underemployed were concerned enough about their work situation to bother looking, or perhaps that respondents were not willing to admit that they had lost hope. A better informed interpretation of these specific statistics in the 1980 census should be a worthwhile expenditure of further research time.

3.32. While Table 46 is impressive in terms of apparently dismissing underemployment as a serious employment problem, Table 47 further strengthens the case. Both tables present the same information, but Table 46 presents the data in aggregate by hourly categories and Table 47 presents the same data broken down by sex. Basically, what can be seen from Table 47 is that although a slightly larger percentage of males

(9.3%) was looking for work than females (6.1%) and that far more females (41.5%) cited housekeeping as their reason for not looking for work than males (2.9%), the basic conclusions drawn from Table 46 are only strengthened. In aggregate, it is clear that three-quarters of the females either did not feel there was need to look for work (33.4%) or that housekeeping responsibilities (41.5%) made it unnecessary or impossible. While over three-fifths of the males either felt there was no need to look for work (54.7%), or cited school (5.2%) or housekeeping (2.9%) as their reasons for not looking, over one-fourth either cited "other" (21.5%) or "not capable" (5.7%). Again, the nagging question must be raised as to the meaning of these responses even though the "lost hope" category is explicitly listed. The female percentages for both of these categories were noticeably lower.

Table 47
The Underemployed Portion of Workforce
by Those Looking for Work or Reasons for Not Looking, 1980
(percentage)

	HOURS WORKED									
	— 0 hours —		1 - 9 hour		10 - 24 hours		25 - 35 hours		0 - 34 hours	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Looking for Work	10.6	6.0	7.8	5.3	9.6	6.1	9.0	6.3	9.3	6.1
Reasons Not Looking										
* Thought No Need	36.2	16.3	46.2	25.0	52.3	32.0	62.3	43.0	54.7	33.4
* Lost Hope	0.3	0.2	0.4	0.3	0.3	0.2	0.3	0.2	0.3	0.2
* Attending School	2.8	1.3	13.2	6.7	7.8	3.6	1.3	0.8	5.2	2.9
* Housekeeping	4.6	55.9	3.5	46.1	2.8	42.3	2.6	34.8	2.9	41.5
* Not Capable	6.9	4.0	8.1	5.3	6.0	4.2	4.6	3.5	5.7	4.1
* Other	36.6	15.9	20.2	10.9	20.9	11.4	19.8	11.3	21.5	11.6
* Not Stated	2.0	0.4	0.6	0.4	0.3	0.2	0.1	0.1	0.4	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Percent Male/Female (0-34 hrs)	7.1	8.1	7.9	10.1	44.6	51.2	40.4	30.6		

Source: Population Census 1980, Series S, No. 2, Tables 42.1-9

3.33. The case against underemployment as an employment problem is further strengthened by two additional pieces of information. First, the percentage of those working more than 35 hours per week but looking for work (6.8%) is almost as high as for those working less than 35 hours per week (7.8%). This suggests that the "underemployed" feel no more compelled to look for work than the "fully employed." Since the statistic does not distinguish between looking for other work and looking for additional work, it is possible that less than the full 7.8% are looking for additional work. Second, the percentage of those working more than 35 hours per week and giving "other" as their reason for not looking for work (15.6%) is only slightly lower than the percentage of those giving the same answer but working less than 35 hours per week (17.0%). This tends to suggest that whatever the "other" category might mean, it probably does not indicate that underemployed workers are any more discouraged in looking for work than their more fully employed counterparts. See Table 48 for further details.

Table 48
Percentage Employed But Looking for Work,
and Percentage Citing "Other" as Reason for Not Looking, 1980

Hours Worked/Week	% Looking for Work	% Not Looking and Citing "Other"
0	8.4	26.5
1 - 9	6.5	15.4
10 - 24	7.9	16.2
25 - 34	8.0	16.4
35 - 44	7.3	15.7
45 - 49	6.7	15.1
60 +	5.7	16.3
Total	7.2	16.1
0 - 34 Hours	7.8	17.0
35 + Hours	6.8	15.6

Source: Table 3.9.

3.34. In sum, although we cannot prove the underemployed do not represent a serious employment problem, we have attempted to cast doubt on the blind acceptance of the raw statistic. What we have attempted to suggest is that working less than 35 hours per week may be a totally reasonable response for many or even most of those classified as underemployed. Although these workers may be marginal or supplemental income earners, and might not even be working if the earnings of primary/principal household workers were higher, it is not clear from the

data that more than 8% of this group want more work. 24/ This percentage by itself does not have the ring of desperation. Nevertheless, we would caution against placing too great an emphasis on this statistic without further examination of the questionnaire and enumeration protocol by an anthropologist and careful comparisons with similar/related data.

3.35. Discouraged Workers as an Employment Problem - "Discouraged workers" are generally defined as people who have dropped out of the labor force because they have given up hope of finding employment. They do not appear in the unemployment statistics because one has to be looking for work (but not working) in order to be classified as unemployed. Thus, by definition "discouraged workers" are not counted as part of the labor force because they are neither working nor looking for work. Nevertheless, the discouraged worker phenomenon could, in principle, be a major employment problem in a situation where employment opportunities are few.

3.36. We have already argued earlier that people cannot generally afford to be unemployed in a relatively poor country such as Indonesia. The common practice of surviving with multiple jobs and/or as a member of a family income pool where any contribution is welcome, argues that some form of employment (regardless of its possible inadequacy in the eyes of a western observer) is preferable to none. Thus, just as we argued that one cannot afford to be unemployed, we could argue that one cannot afford to be a discouraged worker. Although a very serious employment problem may exist in a relatively poor, heavily populated country such as Indonesia, a priori we would not expect to see it reflected in either high open unemployment rates or large numbers of obviously discouraged workers in the classical sense. 25/

3.37. There are at least two obvious exceptions to the general argument against high open unemployment or large numbers of discouraged workers in a country like Indonesia, however. First, those who can afford to be unemployed or to remain outside the workforce, despite being prime candidates on the basis of criteria such as age, sex, health, and absence of obvious competing responsibilities, will tend to be those most

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24/ It should be noted, however, that 35.9% of the underemployed stated they wanted more work in the 1976 Sakernas, and that roughly this same percentage held even for those working more than 35 hours per week. On the other hand, only 6.2% of those working less than 35 hours per week in the 1982 Susenas stated they were looking for work. Clearly, this question deserves to be pursued further.

25/ We would probably expect to see it reflected in the underemployed/part-time employment statistics, in disguised unemployment ($MP_L < AP_L$), possibly in redundant numbers of public sector or government employees, in large informal sector employment--particularly in services and petty trading, in low and stagnating wages, in wide-spread multiple job holding, possibly in seasonal unemployment, etc.

likely to actually be unemployed or outside the labor force. We would expect members of the relatively wealthier families to have a higher reservation price and to be more demanding in the type of employment they would find acceptable. Second, we would expect that individuals with higher levels of educational attainment would tend also to have higher reservation prices and expectations regarding the type of suitable employment. To the extent that higher levels of educational attainment and wealth/income levels are correlated, as they apparently are in Indonesia, we would expect to find these tendancies to be even further strengthened and reinforced. 26/

3.38. The effect of higher reservation prices and expections on acceptable employment would be to extend the period of job search, even if the individual did not openly admit that he is looking for employment. Thus, we could argue that potentially still another unmeasured portion of the labor force exists, a segment that is not necessarily discouraged but perhaps simply reticent or embarrassed to admit to the enumerator that they are looking for employment. The relatively well-off and/or educated may well fit this description. Technically, they are probably not discouraged workers per se because, although they are probably looking for their first serious employment, they are not willing to admit they are looking. Having said all of this, we should also point out that we would probably expect to find most of the reticent unemployed among the young and particularly among males.

3.39. Table 49 shows the percentage of the population age 10 years and over who were classified as "other." This is the same statistic as recorded in Table 10, which shows the breakdown of the population by activity, i.e., working, not working, housekeeping, attending school, and "other." Census enumerators always try to record a person in one of the other mutually exclusive categories (beginning with working and not working) before using the "other" classification. In principle, we would expect to find the very young, the disabled, the aged and the retired, and those living off independent means--as well as those living off their families but engaging in no other activity--in this classification. Because of the residual nature of the "other" classification, it is obvious that it is here that we must look for the discouraged unemployed and the reticent unemployed.

26/ Despite the ability of middle and upper class families to afford/sustain unemployed, reticent or discouraged family members, this does not deny the potential political and economic significance of large numbers of relatively well-educated, non-employed young adults concentrated in urban areas.

Table 49
Rates of Being Classified as "Other," 1980 *
(percentage)

Age Group	URBAN			RURAL			ALL-INDONESIA		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
10 - 14	5.8	6.8	6.3	10.3	12.1	11.2	9.3	10.9	10.1
15 - 19	12.9	12.4	12.6	14.6	15.0	14.8	14.1	14.3	14.2
20 - 24	14.3	8.8	11.5	10.0	6.7	8.2	11.2	7.3	9.1
25 - 29	7.1	4.7	6.0	5.2	3.5	4.3	5.7	3.8	4.8
30 - 34	4.5	3.0	3.8	4.0	2.6	3.3	4.2	2.7	3.4
35 - 39	3.8	2.5	3.2	3.8	2.6	3.2	3.8	2.6	3.2
40 - 44	4.5	3.7	4.1	4.2	3.6	3.9	4.3	3.6	3.9
45 - 49	7.1	5.5	6.2	4.8	5.1	4.9	5.2	5.1	5.2
50 - 54	14.9	10.6	12.7	7.4	10.3	8.8	8.9	10.3	9.6
55 - 59	26.6	17.0	21.9	10.3	14.5	12.4	13.7	15.0	14.4
60 - 64	37.0	30.9	33.8	17.7	28.7	23.4	21.2	29.1	25.3
65 +	58.9	55.8	57.0	40.4	52.2	46.7	43.6	52.8	48.5
Not Stated	-	-	-	-	-	-	-	-	-
Total	11.5	10.0	10.8	10.0	10.9	10.5	10.4	10.7	10.5

Source: Population Census 1980, Series S-2, Tables 39.1-9.

* Total population within a group divided by the number classified as "other" within that group.

3.40. Examination of Table 49 shows a remarkable consistency in the age, sex, and urban-rural locations in terms of the percentage of the population placed in the "other" activity classification. Both males and females in aggregate, whether urban or rural, fall within a very narrow 10-11.5% range. However, within age groups, substantial but expected variations occur in a relatively smooth pattern. The aggregate "other" classification rate, with one initial exception, steadily falls from 10.1% at ages 10-14 to 3.2% at ages 35-39. Thereafter, the rate smoothly rises to 9.6% at ages 50-54 before careening to a peak of 48.5% by ages 65+. Only a brief exception of 14.2% at ages 15-19 interferes with an otherwise smooth "U"-shape curve showing the "other" classification varying inversely with age up to 35-39 and directly with age thereafter. Only the two groupings ages 10-25 and ages 50+ exceed a 5.2% "other" classification rate.

3.41. It would seem that we could, in relatively good conscience, dismiss the high rates in the age groups 50+ on grounds of age, retirement, and relative disability. This feeling is reinforced by the steady and sharp increase in the rate of being classified as "other" as we progress though the older age groups. Similarly, we can probably dismiss the classification in the middle category ages 25-49, with a possible small question mark on age group 25-29. It does not seem unreasonable that a small percentage (generally less than 5%) of this prime age population engages in no other activity either because of independent finances, family support, or disability.

3.42. This leaves the groups between ages 10-25. Again, higher rates among the very young, ages 10-14 (10.1%), do not seem particularly out of line. Not all children are expected to be working, looking for work, helping with the house, or going to school. The rates among ages 15-19 (14.2%) and ages 20-24 (9.1%) are a different matter, however. We have no reasonable explanation for these rates on the basis of disability or old age--and neither school nor housekeeping were cited despite the explicit intent of the census enumerators to look for these categories before choosing the "other" classification. Thus, we are forced to conclude that some portion of those classified as "other" in the age groups 15-19 and 20-24 probably legitimately qualify as either discouraged workers or reticent unemployed. We might also conclude that some small portion (perhaps 25%) of the age group 25-29 classified as "other" are also discouraged or reticent, simply because the "other" rate continues to decline until age group 40-45.

3.43. Although it would appear to be impossible to directly assess the degree of the discouraged worker phenomenon in the age 15-29 categories (or in any other age categories for that matter), we can attempt to assess the effect of educational attainment on the reticent unemployed. The case must be constructed in bits and pieces, however. First, Table 50 clearly shows that most (91.5%) of the population falling into the "other" classification had no more than a primary education. It also shows that males (48.4%) do not appear overly represented in the aggregate. From Table 50 alone we would not conclude that the level of educational attainment is positively associated with a serious discouraged worker or reticent unemployed problem.

Table 50
"Other" Activity Classification
by Educational Attainment, 1980
(000)

	---- M A L E ----		-- F E M A L E --		
	Urban	Rural	Urban	Rural	Total
Never Attended School *	238	1,445	495	2,647	4,826
Not/Not Yet Completed Primary	407	1,468	302	1,146	3,323
Primary	364	751	237	545	1,898
Junior High (General)	145	124	81	61	410
Junior High (Vocational)	32	34	11	13	90
Senior High (General)	102	47	48	17	214
Senior High (Vocational)	77	61	34	26	197
Academy	9	3	4	1	17
University	6	2	2	-	11
	1,380	3,935	1,214	4,456	10,985

Source: Population Census 1980, Series S, No. 2, Table 43.1-9.

* Includes unstated.

3.44. Table 51 further supports the hypothesis that the probability of being classified as "other" does not increase with the level of educational attainment. Indeed, those with academy or university training have the lowest probability of being so classified, while those who have never attended school have by far the highest probability. Although there is no clear trend between these two extremes, all educational attainment above the primary level falls below the overall population average. These conclusions seem to hold for each sex as well as in the aggregate and, casual inspection suggests, by urban-rural breakdowns as well. It is interesting to note from Table 51, however, that the level of educational attainment does appear to be positively associated with the rate of open unemployment, particularly among females. Nevertheless, it appears to be senior high graduates, not academy or university graduates, who have the relatively high unemployment rates.

Table 51
Rates of Unemployment and Being Classified as "Other" by Level of Educational Attainment, 1980
(percentage)

	Rate of Unemployment			Rate of "Other" -- Classification --		
	Male	Female	Total	Male	Female	Total
Never Attended School	0.8	1.7	1.3	17.4	16.5	16.8
Not/Not Yet Completed Primary	1.0	2.1	1.3	8.3	7.1	7.8
Primary	1.5	2.7	1.8	9.3	8.2	8.8
Junior High (General)	2.6	4.8	3.0	8.8	6.7	7.9
Junior High (Vocational)	2.1	3.3	2.3	9.4	6.5	8.4
Senior High (General)	3.7	7.3	4.4	9.9	8.5	9.4
Senior High (Vocational)	3.6	4.9	3.9	9.4	7.3	8.6
Academy	1.5	4.3	2.0	5.7	6.6	5.9
University	1.2	3.1	1.5	4.7	5.7	4.9
Total	1.4	2.2	1.7	10.4	10.7	10.5

Source: Population Census 1980, Series S, No. 2, Tables 43.1-9.

3.45. Table 52 shows the level of educational attainment above the primary school level for ages 10-29. 27/ Using the age-specific educational attainment data from this table and assuming that all individuals classified as "other" falling within these attainment levels (see Table 50) were aged 15-29, we would find the maximum percentages that could be classified as "other" to range between 11.0-20.8%. Again, even with this worst case assumption, there is not strong support for the idea that level of educational attainment is associated with higher levels of discouraged workers or the reticent unemployed. In sum, higher education per se does not seem to be associated with a clear or significant employment problem in the form of discouraged workers or reticent unemployed.

27/ As might be expected, the absolute numbers attaining a given level of education generally tend to increase as we move to the next higher age grouping. Nevertheless, significant exceptions occur for junior high and senior high education levels in the older age groups 20-24 and 25-29, suggesting significant expansion in those programs during the last decade.

Table 52
Educational Attainment
by Selected Age Groups 10-29, 1980
(000)

	Ages 10-14	Ages 15-19	Ages 20-24	Ages 25-29	Worst * Case Scenario %
Junior High (General)	20.1	2,001.1	1,029.3	708.6	11.0
Junior High (Vocational)	3.6	213.5	221.0	178.2	14.7
Senior High (General)	-	133.6	720.1	501.1	15.8
Senior High (Vocational)	-	105.0	686.6	564.4	14.5
Academy	-	-	33.1	74.4	15.8
University	-	-	10.7	42.3	20.8

Source: Table 2.2.

* Note: Percentage between ages 15-29 that would be classified as "other" if all those within these educational categories (see Table 50) were age 15-29.

3.46. We still have not attempted any estimate of the discouraged worker effect that we suggested might be present in the younger age groups 15-29. One way of making such an estimate would be to assume that the difference between the lowest rate of being classified as "other" (ages 35-39) and the rates for ages 15-29 represent discouraged workers or reticent unemployed. This would suggest very high levels of discouraged workers for age group 15-19 (11.0%), relatively high for age group 20-24 (5.9%), and relatively low for age group 25-29 (1.6%). If we were to assume that these percentages were actually discouraged workers and that no discouraged workers existed in any other age categories, there would be 2.6 million discouraged workers/reticent unemployed in Indonesia. This would represent an equivalent 4.7% unemployment rate. It is probably reasonable to believe that this represents an overestimate for these age groups, particularly ages 15-19, which make up almost two-thirds (65%) of the total estimate. On the other hand, the presence of the discouraged worker effect would not necessarily be limited to these age groups. A perusal of both Table 3.8 in the appendix and Table 49 in the text suggests, however, that probably very little of the discouraged worker effect is likely in the remaining age categories. In

sum, we would conclude that the discouraged worker effect is likely to be less than an equivalent 4.7% unemployment rate. 28/

3.47. The Temporarily Not Working as an Employment Problem - Although only 1.7% of the labor force was classified as unemployed in 1980, another 2.7% was classified as temporarily not working but employed. These were individuals who were not working in the week preceding the census because they were on vacation, sick, waiting for work (for certain specialists such as doctors, barbers, etc.), or waiting for the weather/season in agriculture. The question might be raised -- do any of these individuals represent an employment problem? With the possible exception of seasonal unemployment among farmers and agricultural workers, the answer would seem to be no. Table 53 shows slightly higher rates of temporarily not working in the rural areas (2.9%) than in the urban (1.8%), but not enough to be overly concerned about. Even if the difference was attributable to seasonal unemployment, the effective equivalent rate of unemployment would presumably be much lower. Hence, we would conclude from Table 53 alone that seasonal unemployment is probably not much of a problem. We know from the Sakernas quarterly labor force surveys, of course, that employment levels do fluctuate considerably between peak and low seasons in agriculture. Nevertheless, if seasonal participants do not choose to declare themselves as looking for employment, it is not at all clear whether they should be viewed as an employment problem or as a fortunate solution to peak period agricultural labor demand.

28/ We would note two last possibilities that might obscure the true size of the discouraged worker effect. It is conceivable that some people who list themselves as attending school or as keeping house might actually be discouraged workers. However, the statistics on school attendance do not appear to support the first possibility. In aggregate more students are shown as attending school (ages 10+) than actually fall into that category on the employment/housekeeping/attending school activity breakdown. Housekeeping is more difficult. The overall percentage seems reasonable--15.1% or one person out of every 6.6 people is a housekeeper. This is even less than one per average household (4.9 persons) in the economy. On the other hand, we might question whether males, particularly above the age of 14, might not (in fact) be discouraged workers. Roughly 0.4 million males aged 15+ show housekeeping as their principal activity, with the weighting heaviest among the younger and older age groups. If we assumed all such males were discouraged workers, the equivalent unemployment rate would be approximately 0.8%.

Table 53
Rates of Temporarily Not Working, 1980 *
(percentage)

Age Group	URBAN			RURAL			ALL-INDONESIA		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
10 - 14	2.5	1.5	1.9	2.5	3.2	2.8	2.5	3.0	2.8
15 - 19	1.3	1.5	1.4	2.2	3.3	2.8	2.1	3.1	2.6
20 - 24	1.2	1.8	1.4	2.0	4.5	2.9	1.8	4.0	2.6
25 - 29	1.4	2.0	1.5	2.0	4.6	2.8	1.8	4.3	2.5
30 - 34	1.5	2.2	1.6	1.9	4.7	2.8	1.8	4.3	2.5
35 - 39	1.4	2.5	1.7	1.9	4.5	2.8	1.8	4.2	2.6
40 - 44	1.5	2.2	1.7	2.0	4.4	2.8	1.9	4.1	2.6
45 - 49	1.9	2.6	2.1	2.1	4.3	2.9	2.1	4.0	2.7
50 - 54	2.1	2.9	2.4	2.2	4.3	2.9	2.2	4.1	2.8
55 - 59	3.1	3.5	3.2	2.7	4.6	3.3	2.7	4.4	3.3
60 - 64	3.3	3.2	3.3	2.8	4.8	3.4	2.9	4.6	3.4
65 +	3.9	3.8	3.9	3.6	4.6	3.9	3.7	4.5	3.9
Not Stated	-	-	-	-	-	-	-	-	-
Total	1.6	2.2	1.8	2.2	4.4	2.9	2.1	4.0	2.7

Source: Population Census 1980, Series S-2, Tables 39.1-9 and 56.1-9.

* Classified as employed but did no work in week preceding census.

3.48. Labor Force Participation Rates as an Employment Problem - Labor force participation rates have already been discussed in other contexts. Here we will simply ask whether participation rates appear unreasonably low. On the basis of the urban-rural, sex, and age breakdown in Table 54, the short answer probably would be no. The answer is qualified primarily because it is almost impossible to say whether female participation rates are low. Certainly, it would not appear that male participation rates are unusually low. If we look at prime working age males (ages 20-54) the participation rate is 90.9% and would be 93.8% if we excluded ages 20-24. The gradual falling of participation rates at older ages is perfectly reasonable, just as school attendance adequately

explains the lower participation rates at the younger ages--including urban-rural variations. Similarly, the more rapid fall of participation rates for urban males aged 50+ than their rural counterparts would seem to be reasonably explained by the greater prevalence of retirement systems in the urban areas and by ready access to very casual participation in agriculture in the rural areas. (Recall also the very high rates of underemployment in the rural areas among the oldest age groups.) Thus, although this brief digression provides no conclusive results in terms of whether overall labor force participation rates are "too low," it does suggest that male labor force participation is not the crux of the employment problem.

Table 54
Labor Force Participation Rates, 1980
(percentage)

	URBAN			RURAL			ALL-INDONESIA		
Age Group	Male	Female	Total	Male	Female	Total	Male	Female	Total
10 - 14	3.3	4.3	3.8	15.6	11.0	13.4	12.9	9.5	11.3
15 - 19	25.6	21.7	23.6	55.7	34.9	45.2	47.7	31.3	39.3
20 - 24	65.9	27.6	46.4	85.0	36.4	58.2	79.4	34.2	55.0
25 - 29	88.4	28.7	59.3	93.7	38.4	65.4	92.4	36.1	63.9
30 - 34	94.4	29.9	62.5	95.3	42.3	68.2	95.1	39.5	66.9
35 - 39	95.6	32.4	64.1	95.6	45.4	69.9	95.6	42.7	68.6
40 - 44	94.9	36.4	66.0	95.1	48.4	71.2	95.1	46.0	70.1
45 - 49	92.2	36.2	63.2	94.5	49.5	71.6	94.1	46.8	70.0
50 - 54	83.6	34.0	58.9	91.7	47.0	69.4	90.0	44.4	67.3
55 - 59	70.5	29.1	50.2	88.3	43.9	66.4	84.6	40.8	63.1
60 - 64	59.9	23.8	41.0	80.5	35.0	57.0	76.8	32.9	54.1
65 +	37.2	13.2	23.6	56.8	20.4	37.3	53.4	19.0	34.8
Not Stated	44.9	19.7	32.2	48.3	14.6	33.4	47.7	15.8	33.1
Total	59.1	24.2	41.5	71.2	35.2	52.9	68.4	32.7	50.2

Source: Population Census 1980, Series S-2, Tables 39.1-9.

3.49. The Male as an Employment Problem - While combined statistics relating to employment provide perfectly valid information on the overall employment situation, in principle, the political economy of most Third World countries is probably better judged by the statistics for males. Indonesia is probably no exception. The unemployment, underemployment, or non-employment of males is probably of greater concern both economically and politically than for females. And since the employment situation is generally believed to be worse for young males, particularly in the urban areas, closer attention to these groups should give some idea of the sensitivity of the employment issue. We will briefly re-examine Indonesian males as a whole and young urban males and young rural males separately.

3.50. All Males - Table 55 provides a summary profile of the Indonesian male age 10 years and over. It can be seen that the substantial difference between urban (59.1%) and rural (71.2%) labor force participation rates is almost totally explained by higher urban school attendance rates. Both the percentage keeping house and classified as "other" are roughly the same. Although urban unemployment rates are more than 2.5 times higher than rural rates, their absolute levels do not suggest that open unemployment per se is much of a problem. Also, the difference in the rate of underemployment between urban (15.0%) and rural (33.3%) males does seem highly significant. Although we know that proportionately greater numbers of young males are working in rural areas and that young males tend to have very high rates of underemployment, all age groups (of both sexes) have much higher underemployment rates in the rural areas. This would seem to be the only obviously worrisome feature of the summary statistics.

Table 55
Profile of Indonesian Male
Population 10 Years of Age and Over, 1980
(percentage)

	Urban	Rural	Total
Labor Force Participation Rate	59.1	71.2	68.4
School Attendance Rate	28.4	17.7	20.2
Housekeeping Rate	1.0	1.1	1.0
"Other" Classification Rate	11.5	10.0	10.4
Total Activities	100.0	100.0	100.0
Total Indonesian Males (000)	11,952	39,350	51,302
- Employed Males (000)	6,878	27,741	34,619
- Unemployed Males (000)	189	291	480
- Underemployed Males (000)	1,031	9,243	10,273
Rate of Unemployment	2.7	1.0	1.4
Rate of Underemployment	15.0	33.3	29.7

Source: Various tables within this paper.

3.51. Young Urban Males - Table 56 provides a summary profile of young urban males age 10-29. The table makes clear that the extreme discrepancies in labor force participation rates between the four age groups represented is largely explained by differences in school attendance rates. Nevertheless, the substantial differences in the "other" classification rate, for ages 15-19 (12.9%) and ages 20-24 (14.2%), as compared to the remaining two age groups, probably suggests the presence of discouraged workers or reticent unemployed. Depending on the degree of this phenomenon, the effective equivalent open unemployment rate could be extremely high for these particular age groups (e.g., 30% for ages 15-19 and 18% for ages 20-24). Nevertheless, it is important to keep the absolute numbers in mind because, as we noted earlier, it is doubtful that this effect is widespread at other ages. Turning to open unemployment, it is evident that the rates for ages 10-24 are high for Indonesia as a whole but are not out of line compared to many other countries' experiences for these age groups. The rates of underemployment also appear reasonable within the Indonesian context. In sum, the statistics in Table 56 do not suggest an acute employment problem among young urban males. It does suggest that to the extent that an employment problem exists, it is concentrated largely in the urban male age groups 15-24.

Table 56
Profile of Young Urban Male
Population 10 Years of Age and Over, 1980
(percentage)

	AGE GROUPS			
	10-14	15-19	20-24	25-29
Labor Force Participation Rate	3.3	25.6	65.9	88.4
School Attendance Rate	90.2	60.4	19.0	3.9
Housekeeping Rate	0.7	1.1	0.9	0.5
"Other" Classification Rate	5.8	12.9	14.2	7.2
Total Activities	100.0	100.0	100.0	100.0
Total Urban Males (000)	1,982	1,999	1,739	1,415
- Employed Males (000)	61	469	1,069	1,222
- Unemployed Males (000)	4	42	78	29
- Underemployed Males (000)	26	89	141	147
Rate of Unemployment	5.8	8.2	6.8	2.3
Rate of Underemployment	42.6	19.0	13.2	12.0

Source: Various tables within this paper.

3.52. Young Rural Males - Table 57 provides a summary profile of young rural males age 10-29. Again, although substantial discrepancies in labor force participation rates exist both within the young rural male age groups and compared to their urban counterparts, the differences in labor force participation rates are almost entirely explained by differences in school attendance rates. Although the "other" classification rate bulges at ages 15-19 (14.6%) and is possibly a little high at ages 20-24 (10.0%) the potential scope for discouraged workers or reticent unemployed is about the same as among their urban counterparts. The effective equivalent open unemployment rate implied for ages 15-24, which takes into account the potential discouraged worker effect, may range between 17% (ages 15-19) and 7% (ages 20-24). Measured unemployment rates themselves are quite low and not a cause for concern. Underemployment rates, on the other hand, seem extremely high for those who are, in a rural setting, largely prime working age males. Nevertheless, with the exception of ages 10-14 (64.1%) and ages 15-19 (40.6%), the rates of underemployment for young rural males are only slightly above the lowest male age group rate (ages 30-34) and are essentially no greater than the overall rate of 33.6% for rural males. In sum, young rural males do not seem to have a materially larger employment problem (based on the measures examined) than their older counterparts (ages 30-49) in the rural areas. Nevertheless, rural underemployment rates seem very high as a whole and are probably both the clearest and the single most important indicator of a rural employment problem.

Table 57
Profile of Young Rural Male
Population 10 Years of Age and Over, 1980

	AGE GROUPS			
	10-14	15-19	20-24	25-29
Labor Force Participation Rate	15.6	55.7	85.0	93.7
School Attendance Rate	73.0	28.3	4.1	0.4
Housekeeping Rate	1.1	1.4	0.9	0.7
"Other" Classification Rate	10.3	14.6	10.0	5.2
Total Activities	100.0	100.0	100.0	100.0
Total Rural Males (000)	7,150	5,513	4,239	4,198
- Employed Males (000)	1,090	2,989	3,535	3,897
- Unemployed Males (000)	26	81	68	35
- Underemployed Males (000)	703	1,212	1,071	1,093
Rate of Unemployment	2.3	2.6	1.9	0.9
Rate of Underemployment	64.1	40.6	30.3	28.0

Source: Various tables within this paper.

D. Wages and Income as a Measure of Need

3.53. Level of Wages as an Employment Problem - For very important and obvious reasons, wage rates are often seen as the ultimate indicator of the overall health of the labor market. Rising wages are generally seen as good, falling wages as bad, and constant wages as a source of concern, at least from the viewpoint of overall societal welfare. The analysis is not quite that simple, however. It is clear, for example, that real wage rates can be rising, falling, or constant, even in the face of very respectable economic growth such as experienced by Indonesia 1974 through 1981 (8.0% average). In principle, any of these wage rate conditions could exist simply because changes in wage rates are determined by changes in both the demand and supply of labor. The relative strength of the changes, combined with a possible pre-existing excess supply of labor, would dictate the course of wage rates. 29/

3.54. As we have noted earlier, however, it would still be possible for total earned income to be rising, both individually and/or collectively, even in the face of constant or falling real wage rates. This would be possible if the total quantity of labor inputs demanded (hours/days) is increasing fast enough to offset sluggish wage rates. Earned incomes could, in principle, increase even in the absence of growth of the total numbers of people employed, if the existing labor force were working additional days/hours compared to prior periods.

3.55. A similar positive effect on earned incomes could also be achieved if total employment were to grow faster than the population growth rate. In that case, average real per capita earned income levels would increase, even in the face of constant average hours of work per laborer and constant real wage rates. Obviously, there would be many combinations of average hours worked and employment growth rates that could result in constant or rising real per capita earned incomes--even in the face of constant or falling real wage rates. Thus, we must conclude that although rising real wages are generally good for the worker, their absence does not necessarily mean that the average worker

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29/ While this argument abstracts from potential institutional rigidities (such as union power, the civil service, and traditional village agricultural work arrangements), such rigidities have a way of ultimately failing under sustained market pressures. Further, the presence of continual inflation makes it a simple matter in practice to make downward adjustments in real wages by simply holding the rate of change in nominal wages below the rate of inflation.

has less real earned income or that average real/household income has declined. 30/

3.56. In the case of Indonesia the general concensus seems to be that real wage rates have stagnated through most of the 1970s and have probably increased, at least for rice agriculture, since approximately 1979-80 (Wiradi and Manning:1984; Collier et al.:1982a; IBRD:1983b). 31/ While these results are by no means definitive and have all sorts of limitations (including geographical and sectoral coverage), in general, the issue in question since the last half of the 1970s has not been whether real wage rates are decreasing but whether they are constant or perhaps increasing.

3.57. If we accept that on average real wage rates have been constant over the last 7-8 years, this would constitute very strong evidence (in conjunction with employment growth rates) that per capita earned incomes have steadily increased during this period. The reason is relatively simple. Total employment has grown much faster (3.1%) than population growth (2.3%) during the period 1971-80, and the gap has possibly widened slightly in the early 1980s (IBRD:1983b). 32/ Constant real wages coupled with falling dependency ratios imply rising average real per

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30/ Implicitly our discussion has suggested that changes in welfare resulting from employment can be best inferred from changes in real earned incomes as opposed to real wages. This does not mean that we assign a zero value to the preference for leisure or that we would disregard real wage rate data. It simply means that given the absence of key information relating to hours worked, wage rates, number of jobs held, and number of income earners in a family, household incomes/expenditures may be the best available measure summarizing all of these variables. Further, given the decreasing trends in dependency ratios, the presumed existence of discouraged/reticent workers, and the large proportion of "part time" workers, it is not clear that an increase in the quantity of labor input poses serious burdens on leisure time. Nevertheless, declining real wage rates across a broad spectrum of the labor market imply a decrease in welfare (taking into account the value of leisure) regardless of whether average real earned incomes are rising or from whom the labor inputs are being supplied.

31/ Because of time limitations, we will make no attempt in this paper to review either the work on wages or the relatively spotty and meagre statistics that are available. The subject is sufficiently complicated and important to deserve a separate and careful study. For the purposes of the argument developed in this section, however, a finding of even constant real wages is strong evidence that average per capita earned incomes have increased in Indonesia during most of the 1970s and 1980s.

32/ The population growth rate is thought to have slowed to possibly 2.2% by 1981-83 while the working age population may still be growing at 2.8-2.9%. The population age 10 years and over is believed to be the best indicator of employment growth, given constant labor force participation rates and relatively constant employment rates.

capita earned incomes, if the average hours worked per employed member of the population are constant and if there has been no material shift of the occupational structure toward lower wage jobs. Under these circumstances average per capita earned incomes must increase.

3.58. Without attempting a detailed examination, the literature and statistics indicate that neither situation (decreasing average hours worked or a relative shift toward low wage jobs) has occurred. Rather, there is reason to believe that labor inputs (total person days) in relatively high paying rice agriculture have probably significantly increased (Collier et al.:1982a) and that the employed labor force seems to be working about the same average hours in 1980-82 as in 1976. Our estimates of average hours worked per employed member of the labor force in 1976 (40.6 hrs/wk) compare favorably with 1980 (39.2 hrs/wk) and 1982 (39.0 hrs/wk). Table 58 would also tend to corroborate the notion that no material shifts have occurred in the structure of average hours worked.

Table 58
Percentage of Total Employment by
Number of Hours Worked Per Week, 1976-82

	1976	1980	1982
0	7.1	2.7	2.3
1 - 9	2.3	3.3	2.9
10 - 24	15.7	17.4	18.7
25 - 34	14.5	13.1	16.0
35 - 59	48.2	50.7	48.1
60 +	12.2	11.8	11.9
Not Stated	-	1.0	0.1
	100.0	100.0	100.0

Source: Table 3.1 and Keadaan Angkatan Kerja Di Indonesia, September-December 1976, Table 17.9 and 1982, Table 10.3.

3.59. No claim is made that any of the four key premises discussed above have been adequately examined. Nevertheless, it appears that the first two premises (constancy of real wages and employment growing faster than population) are relatively well supported by the literature and statistics. However, the second two (constant/increasing average hours worked and constant/improving occupational wage structure) have clearly not been adequately examined. All four areas could stand close scrutiny over the last decade.

3.60. Level of Income as an Employment Problem - As we have argued earlier, the level of family/household income is probably the single most comprehensive indicator of whether an employment problem exists and whether it is improving or worsening. This argument is based on (i) the premise that an individual's effective share in income, not employment per se, is what ultimately counts and (ii) that trends in average family

income summarize all relevant factors (e.g., total numbers employed, average hours worked, wage rates, changes in population age structure, changes in age-specific labor force participation rates, etc.) bearing on the implicit welfare question in mind. 33/

3.61. While we think it is important to understand the weaknesses of using the various statistics on employment and wages to reach judgments on the employment problem, we do not suggest that it is necessarily easier to examine the question from the viewpoint of family incomes. For one thing, family income includes non-earned (non-employment) components such as rent, interest and profits. For another, family or household incomes per se are not typically measured, or at least reported, in the comprehensive Indonesia-wide household surveys conducted by the Central Bureau of Statistics. Household expenditures, rather than incomes, are reported because the data are considered more reliable. 34/ Nevertheless, household expenditure data are probably a good proxy for both spendable income and for earned income for the bottom 60 to 70% of the income distribution and, therefore, a good indicator of changes in the employment situation. We would also judge household expenditure data as suitable for drawing conclusions on poverty levels and changes therein. Nonetheless, household expenditure surveys, of course, have all of their own methodological measurement and sampling problems that, unfortunately, cannot be considered here. Household expenditures between 1976 and 1981, along with related per capita income data, are briefly considered below.

3.62. Table 59 shows average per capita monthly household expenditures for 1976-81 in current market prices. It can be seen that nominal expenditures were almost 2.5 times (246.8%) greater in 1981 than in 1976. Average per capita urban household expenditures increased at a slightly faster rate (246.8%) than average rural expenditures (235.5%). 35/ Table 59 also shows that the distribution of household expenditures was roughly as equitable (according to Gini coefficients) in 1981 as in 1976, although it appeared to have worsened in 1978. 36/ Examination of expenditures by decile suggests no clear pattern in the

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33/ Nevetheless, the comments of footnote no. 30 regarding the value of leisure should be kept in mind.

34/ BPS officials estimate that income data provided by Susenas respondents in response to direct queries may average 30% less than the household expenditure data gathered by indirect questioning. This is despite the fact that income should normally be greater than expenditures.

35/ Note: These percentages suggest something may be wrong with the data because the all-Indonesia average is just as high as the urban average, despite the lower rural growth.

36/ The Gini coefficient is a summary index of the concentration of income/expenditure within the economy and ranges between 0 and 1. The lower the Gini coefficient the more equal income/expenditure among all population groups.

changes in expenditure distribution between 1976-81, with gains and losses in the share of income spread throughout the expenditure distribution range. In other words, there was no consistent pattern of particular income groups gaining or losing in their share of household expenditures over this time period despite the large increases in average nominal expenditures. See also Table 3.13 in the statistical appendix.

Table 59
Average Per Capita
Monthly Household Expenditure 1976-81
(Rupiahs)

	EXPENDITURES			GINI COEFFICIENTS		
	Urban	Rural	Total	Urban	Rural	Total
1976	6,775	3,910	4,426	0.35	0.31	0.34
1978	9,222	4,734	5,568	0.38	0.34	0.38
1980	12,208	7,212	8,341	0.36	0.31	0.34
1981	16,722	9,210	10,922	0.35	0.30	0.34

Source: Statistik Indonesia 1983

3.63. Table 60 suggests that average per capita household expenditures have probably at worst remained about constant in real terms, between 1976 and 1981 (if deflated by the wholesale price index) and may have increased at about a 5% annual average (if deflated by the rural nine basic commodities price indexes). The urban price indexes do not cover the full 1976-81 period in a continuous series but appear to have increased at a significantly slower rate (80%) for the period 1978-81 than the wholesale price index (121%). This reinforces the suggestion of a positive real growth rate for the all-Indonesia average per capita household expenditure. Together with the relatively constant Gini coefficients, this suggests that Indonesians, across the income distribution spectrum, had higher real incomes in 1981 than in 1976.

Table 60
Average Per Capita
Monthly Household Expenditure, 1976-81
(Rupiah)

	1976	1981	% Change	Average % Growth
Average Expenditure-Undeflated	4,426	10,922	146.8	19.8
Wholesale Prices Index (1975)	4,024	3,859	- 4.3	- 0.8
Rural Java 9 Basic Commodities Index (1971)	1,564	2,045	30.8	5.5
Rural Outer Java 9 Basic Commodities Index (1971)	1,829	2,266	23.9	4.4
Weighted Rural Index (1971) *	1,654	2,124	28.4	5.1

Source: Statistik Indonesia 1983.

* The two rural nine basic commodities indexes weighted on the basis of population in 1980.

3.64. An examination of the composition of average per capita household expenditures by consumer commodity group also tends to support the proposition that real per capita incomes improved during the period 1976-81. Table 61 shows that both the proportion of expenditures allocated to food and the share of cereals within the food category decreased during the period 1976-81. The first phenomenon (falling share of food expenditures) is consistent with expected expenditure behavior for increases in real income. The second phenomenon (decreasing share of cereals within the total food expenditure category) is also consistent with rising real incomes but may further suggest that cereals as a group are no longer superior goods--which would doubly reinforce the proposition of rising real incomes.

Table 61
Percentage of Per Capita Monthly
Household Expenditure by Commodity Group, 1976-81

	1976	1978	1980	1981
Urban				
Food	63.8	56.7	59.8	51.6
Cereals as % Food	(30.5)	(26.9)	(26.3)	(24.5)
Non-Food	36.2	43.3	40.2	48.4
Rural				
Food	77.6	73.1	74.0	65.7
Cereals as % Food	(42.8)	(39.9)	(37.7)	(36.5)
Non-Food	22.4	26.9	26.0	34.3
Indonesia				
Food	72.9	68.0	69.3	60.8
Cereals as % Food	(39.9)	(36.5)	(34.5)	(33.0)
Non-Food	27.1	32.0	30.7	39.2

Source: Statistik Indonesia 1983.

3.65. Both real per capita GDP and real per capita national income increased over the comparable 1976-81 period. Real per capita income, which is the more relevant concept in terms of probable domestic consumption, increased at an average annual rate of 5.4% in the period 1976-81. Real private consumption expenditures per capita also increased an average 6.5% for the period 1976-80, which is consistent with the earlier findings on probable real increases in household expenditure (Statistik Indonesia 1980-81, pps. 691-3). Table 62 reflects, however, the downturn in economic growth in 1982-83 when per capita income averaged less than a 0.5% increase per year.

Table 62
Per Capita GDP and National Income
in Constant 1973 Market Prices, 1976-83
(Rupiah)

	Per Capita GDP	% Increase	Per Capita Income	% Increase
1976	61,004	4.4	51,308	4.6
1977	64,846	6.3	54,392	6.0
1978	68,430	3.8	57,104	5.0
1979	71,062	3.9	58,419	2.3
1980	76,312	7.4	62,432	6.9
1981	80,537	5.5	66,859	7.1
1982	80,564	-	67,118	0.4
1983	82,126	1.9	67,427	0.5

Source: Statistik Indonesia, various issues.

3.66. Although the data are not strictly comparable (different base years) and do not reconcile with national aggregates, the regional GDP data in Table 63 tend to support the impressions of positive real increases gained from household expenditure and per capita income data. With only two exceptions, real per capita regional GDP increased in all provinces in the period 1976-81. The range in average growth during this period was relatively high, from -3.5% in Riau to +17.9% in Aceh. All provinces averaged at least a 3.7% annual growth in real per capita GDP for the period 1976-81, with the exception of Riau (-3.5%), Jambi (1.0%), DKI Jakarta (2.0%), and Irian Jaya (-1.4%). Both Riau and Irian Jaya experienced negative growth because of adverse changes in petroleum and mining. The mode for regional growth appeared to be approximately 6.0%.

Table 63
Per Capita Gross Domestic Regional Product
in Constant 1975 Market Prices, 1976-81
(Thousand Rupiahs)

		1976	1981	% Change	Average Growth (%)
1.	Aceh with petroleum	98.7	225.2	128.2	17.9
	Aceh without petroleum	90.6 1/	111.0	22.5	5.2
2.	North Sumatra	101.1	138.5	37.0	6.5
3.	West Sumatra	63.7	82.2 *	29.0	6.6
4.	Riau with petroleum	907.7	758.8	- 16.4	- 3.5
	Riau without petroleum	84.3	112.2	33.1	5.9
5.	Jambi	85.6	89.9	5.0	1.0
6.	South Sumatra with petroleum	139.8	196.8	40.8	7.1
	South Sumatra without petroleum	106.5	159.6	49.9	8.4
7.	Bengkulu	56.9	86.9	52.7	8.8
8.	Lampung	72.3	83.0	14.8	3.7
9.	DKI Jakarta	207.5	229.1	10.4	2.0
10.	West Java	76.9	104.3	35.6	6.3
11.	Central Java	53.1	75.3	41.8	7.2
12.	Jogyakarta	56.6	71.5	26.3	4.8
13.	East Java	65.3	102.1	56.4	9.4
14.	West Kalimantan	81.4	98.0	20.4	3.8
15.	Central Kalimantan	80.0	140.5	75.6	11.9
16.	South Kalimantan	76.5	94.8	23.9	4.4
17.	East Kalimantan with petroleum	735.9	878.1 *	19.3	4.5
	East Kalimantan without petroleum	256.0	301.5 *	17.8	4.2
18.	North Sulawesi	73.4	131.5	79.2	12.4
19.	Central Sulawesi	57.6	79.9	38.5	6.8
20.	South Sulawesi	67.5	98.9	46.5	7.9
21.	Central Sulawesi	59.2	79.1 *	33.6	7.5
22.	Bali	74.4	124.4	67.2	10.8
23.	West Nusa Tenggara	43.9	58.5	33.3	5.9
24.	East Nusa Tenggara	40.4	57.5	42.3	7.3
25.	Maluku	94.7	118.9 *	25.6	5.9
26.	Irian Jaya with mining	234.3	217.8	- 7.0	- 1.4
	Irian Jaya without mining	85.9	130.1	51.5	8.7
27.	Timor Timur	-	-	-	-

Source: Statistik Indonesia 1983 and Provincial Income in Indonesia 1976-80.

1/ 1977 Data.
* 1980 Data.

3.67. Employment Adequacy as Measured by the Poverty Line - If we argue that the level of income is the ultimate determinant of employment adequacy, it is obvious that attempts to measure the population falling below the poverty line is an important aspect of the adequacy question. We have already made clear the proposition that income, not employment per se, is the ultimate issue. The widespread existence of employment opportunities is probably the single most important means of ensuring reasonably equitable distribution of income. Nevertheless, the existence of widespread employment does not in itself ensure the adequacy of income levels. The poverty line, which in an absolute sense is always arbitrarily defined, does seem to have more than usual significance in countries where it is primarily limited to subsistence level food budgets.

3.68. On the basis of a definition consisting of essentially subsistence food levels plus a minor non-food allowance, the World Bank estimated that 40% of Indonesia's population lived below the poverty line in 1980 (IBRD:1984a). 37/ Although Table 64 shows this to be an improvement over the estimated 57% of the population living below the comparable poverty line in 1970, some observers have questioned the estimates as being overly optimistic. Nevertheless, whatever the exact numbers may be, it seems clear that they are very large, even under conservatively low definitions of the poverty level.

Table 64
Regional Variations in Poverty Incidence, 1970-80
(% of Population)

	1970	1976	1978	1980
Java				
Urban	56.3	33.8	27.5	20.9
Rural	67.0	62.7	65.0	52.0
Sub-total	65.0	57.0	57.9	46.9
Outer Islands				
Urban	40.8	28.0	21.2	17.3
Rural	43.9	39.6	34.3	30.3
Sub-total	43.2	37.3	31.8	28.0
Indonesia				
Urban	50.7	31.51	25.2	19.7
Rural	58.5	54.5	54.0	44.6
Total	57.1	50.1	48.5	39.8

Source: IBRD:1984a, p. 130.

37/ "The definition of poverty is based on a minimum food expenditure requirement of 17.6 kg of rice per month per capita which is required to provde 2,150 calories and 30 grammes of protein per day. In addition, an allowance is made for non-food basic items such as shelter and clothing, related to the consumption expenditures of households substituting at the minimum food expenditure level." In 1980 the poverty line ranged from Rp. 5,429 per month per capita in rural Java to Rp. 6,471 in the urban outer islands. The allowance for food comprised slightly over two-thirds of the total. See V.V. Rao (1984), pgs. 42, 66.

3.69. To the extent that these estimates are remotely correct, they suggest a major, although possibly improving, income-employment problem in Indonesia. If open unemployment is minimal (1.7%) and only a relatively tiny fraction (7.2%) of those employed, including the 36.5% working less than 35 hrs per week, admit to looking for additional employment, this suggests a situation of wide-spread, low productivity, low-pay employment, presumably without much meaningful opportunity for additional work time. Thus, although we can quibble about the meaning and interpretation of the various measures of the employment problem, ultimately the level of income (as opposed to its apparently favorable trends) tells us the "problem" is severe.

E. A Contrast and Synthesis of Conclusions

3.70. It should be clear by now that the perception of the employment problem depends to an important degree on the vantage point of the observer and the particular statistics, concepts, and value judgments to which interpreters subscribe. We have tried in this section to bring some coherence to this situation by examining several of the possible vantage points and by attempting to reconcile/explain some of the paradoxical findings or possibilities.

3.71. In the process of our considerations (largely on the basis of 1980 Census data), we have found that open unemployment, although of potential concern among urban youth and secondary school graduates, does not appear to be a serious problem in the aggregate. We have found that underemployment, while of startlingly large magnitudes--particularly among females and particularly within the rural sector as a whole, may in fact almost entirely represent part-time workers who neither desire nor seek additional employment at the going wage rates. We have found some reason to believe that discouraged workers or reticient unemployed may be of significant magnitude, possibly three times the rate of open unemployment, and largely concentrated among the ages of 15-24. On the other hand, we have discounted the significance of those classified as employed but temporarily not working. Finally, a separate examination of employment statistics for males concluded that neither young urban males nor young rural males represent an acute employment problem as a group when compared to their older male counterparts. Nevertheless, the large discrepancy between urban and rural underemployment rates for males as a whole, the concentration of probable discouraged workers among the young as a whole, and the concentration of open unemployment among young urban males would seem cause for specific concern.

3.72. Largely on the basis of the analyses of wage data by others, we argued that the probable constancy of real wages during the latter half of the 1970s and the first part of the 1980s implied rising real per capita earned incomes because employment grew much faster than the population as a whole, without apparent deterioration in the average hours worked. Examination of both real per capita incomes and real per capita household expenditures (broken down by expenditure class) during the period 1976-81 tended to support this hypothesis. We concluded on the basis of the income and household expenditure tests that the employment situation has probably improved in recent years (1976-81) but that in absolute (poverty level) terms, the situation must still be

considered serious. We further concluded (given the high degree of male labor force participation, the ultra low degree of open unemployment, and the relatively low degree of employment search among the employed) that it is the low productivity of available employment as opposed to its absence that best describes the "employment problem."

3.73. We have in no sense belittled or discounted the employment problem. What we have done is to examine a cross-section of possible indicators for 1980 and concluded that on the basis of employment statistics alone, the problem may be less serious, although still consequential, than generally represented. On the basis of recent wage, income, and household expenditure trends, we concluded that the employment situation, measured in terms of household incomes, has probably improved. We then went on to say, however, that on the basis of the absolute level of household expenditures it was impossible to conclude that the employment situation is not serious when 40% of the population falls below a very conservative estimate of the poverty line. None of these findings are in conflict and all are consistent with a general situation of low productivity/low returns to labor.

3.74. Having said all of this, it should also be clear that if the income-employment situation was not statisfactory (even if improving) under conditions of rapid economic growth in the 1970s, it could be expected to be even less so during the coming decade under conditions of lower economic growth and faster growth in labor supply. Indeed, that is the subject to which we turn next.

IV. PROSPECTS FOR FUTURE EMPLOYMENT

4.01. Thus far we have considered employment in the recent past, primarily as reflected in the 1980 census. Now we will consider the prospects for future employment. We must warn, however, that because there is legitimate controversy over both the size of the current labor force and employment trends during the last 10-12 years, that predicting the future is both complicated and perilous. This section will briefly consider the prospects for future employment against the backdrop of recent projections by the Government of Indonesia for labor supply and by the World Bank for labor demand. After providing a short introduction to the macro-economic and labor market setting, we will consider in turn (i) labor force supply, (ii) labor force demand, and (iii) potential employment shortfalls.

A. Macro-Economic and Labor Market Setting

4.02. Macro-Economic Setting - Following a full decade of real GDP growth averaging 8% per annum, world recession and weakening international oil markets combined to bring Indonesian growth almost to a standstill (2.2%) in 1982. Although the international oil situation further deteriorated in early 1983 (culminating in a 28% devaluation of the rupiah and a wide ranging set of policy reform and adjustment measures) the Indonesian economy rebounded to respectable 4.5-5.0% growth in 1983 and 1984, following the introduction of domestic adjustment and reform measures and the upturn in the international economy. Nevertheless, although the rapid turnabout in Indonesian economic performance exceeded expectations and stood as a tribute to both the skills of Indonesian economic policy makers and the basic resiliancy of the economy, a darkening cloud had clearly begun to form on the mid- to long-term economic horizon.

4.03. Three major factors account for the growing concern and pessimism relating to the economic outlook over the next several years. First, and foremost, the outlook for both international oil prices and export volumes has become highly uncertain through the end of this decade and possibly well into the 1990s. This has profound implications for an economy which derives 19% of its GDP, 70% of its export earnings, 70% of its domestic budgetary revenues and, implicitly, half of its domestic savings from oil and LNG. 38/

4.04. Second, the period of rapid growth in rice production is probably drawing to a close both because rice is currently in excess supply and because so much of the potential acreage has already been covered under the rice intensification programs. This is of major consequence because agriculture accounts for 26% of GDP and rice accounts for one-third of the total value of agricultural output. Although secondary crops, tree crops, and livestock offer promising alternative sources of agricultural

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38/ All references to oil implicitly include LNG because LNG prices are tied to oil contract prices. Hence, at least with respect to prices, as the fortunes of oil go so goes LNG.

growth (and incomes), a much more diverse and sophisticated approach to agricultural planning, research and extension will be required to sustain past levels of agricultural growth. In either event, both lower agricultural growth and agricultural diversification into secondary crops imply lower labor requirements for the agricultural sector.

4.05. Finally, but not least, manufacturing growth, after averaging 14% in the decade through 1981, has averaged less than 3% in the three subsequent years. Although this downturn is coincident with the general downturn in domestic demand, there is good reason to believe that the period of easy import substitution-led growth of the 1970s has given way to the inevitably more constrained growth of a slowly maturing domestically-oriented manufacturing sector. Although manufacturing currently contributes only 12% of GDP, it is viewed as a particularly key commodity producing sector, especially in the absence of strong oil and agricultural growth prospects and given the long-term need for non-oil exports to replace declining oil revenues. IBRD analyses of Indonesia's primary commodity export outlook, although promising, suggest that manufacturing exports have a key role to play if economic growth is not to be unduly constrained over the longer term by lack of foreign exchange.

4.06. Thus, although Indonesia has reacted both swiftly and wisely in its adjustments to the adverse external economic events of 1982-83, the uncertain mid- to long-term outlook for oil/LNG, agriculture, and manufacturing suggests that the Indonesian economy has entered a new era of lower, possibly 4-5%, growth. Since new employment opportunities are intimately tied to the level of economic growth (as well as relative factor of production prices) the prospects of significantly lower long-term economic growth must be a source of major policy concern.

4.07. Labor Market Setting - Indonesia's labor markets have relatively free entry and are effectively unconstrained by formal institutions. Although labor unions and minimum wage regulations exist, it appears that in practice they follow rather than lead wage setting in large scale, formal sector employment and are not applicable or not enforced in small scale industry and the informal sector. Although clear family, neighbor, and village resident preferences exist in the rural sector and wage differentials are observed between geographically proximate villages, the increased mobility of rural labor and its access to both rural off-farm employment and temporary urban employment has lessened the importance of relative immobility between rural villages. Nevertheless, even this feature of rural labor markets (relative immobility between rural villages) is gradually being eroded.

4.08. Indonesia's labor markets can be viewed as a multiplicity of interconnecting markets with varying ease of entry depending on the specific markets between which labor flows occur. Labor mobility appears greatest within the urban informal, the rural off-farm, and the unskilled labor markets and between the urban informal and rural labor markets as a whole and the agricultural labor and rural off-farm markets. Labor mobility appears least between the skilled labor markets, the urban formal and urban informal markets, the urban formal and rural markets, and the inter-island labor markets. Nevertheless, although labor mobility is not perfect, with the possible exception of the relative

immobility between inter-island markets, the functioning of Indonesian labor markets does not appear to be a major factor contributing to the existence of an employment problem. Temporary and circular rural-urban migration is believed to have played an important role both in equalizing returns to relatively homogeneous labor in the urban and rural sectors (excluding differences in cost of living) and in providing important supplements (possibly one-third to one-half) to rural household incomes. See IBRD (1983b) and Wiradi and Manning (1984) among other citations in the bibligraphy on the subject of labor market functioning.

B. Labor Force Supply

4.09. Labor force supply is a function of many variables including population size, population age structure, real income levels and distribution, real wage rates, economic structure, participation in the educational system, customs and traditions in work roles and work sharing, etc. In projecting labor force supply, however, we customarily reduce our concerns to (i) that portion of the population age structure considered eligible for the labor force and (ii) labor force participation rates--which implicitly summarize the impact of all relevent variables on the decision of whether to seek work.

4.10. Obviously, the underlying variables that determine population size and labor force participation rates may change, particularly over long periods of time. We may find it useful, therefore, to consider the impact of population growth separately from the impact of participation rates in evaluating future labor supply projections. We may also find it useful to consider the meaning of labor supply projections, given that they are based on participation rates that do not distinguish between full- and part-time employment.

4.11. Impact of Population Growth - It is the impact of past population growth and its on-going momentum, more than any other factor, that accounts for the current gloomy outlook on future employment prospects. Very simply speaking, even if population growth were to cease tomorrow, almost the entire potential labor force through the year 2000 has already been born. This is true both because the potential labor force is deemed to be ages 10+ and because labor force participation rates for ages 10-19 have been historically quite low. In addition, school enrollment rates for these age groups are increasing. In essence, this means nothing can be done to reduce future labor supply over the next 10 years and very little can be done even over the next 15 to 20 years through population control measures alone. 39/

4.12. A second, more subtle aspect of the population dynamic that will tend to work toward rapid future labor force growth is the changing age structure of the working age population. Table 65 shows that not only is

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39/ In fact, a highly successful population control program might actually increase labor supply in the interim by increasing female labor force participation rates during their prime reproductive years, judging by current age-specific female participation rates.

the population age 10 years and over growing faster than the population as a whole but the age cohorts with the highest participation rates within the ages 10 and over category will generally become proportionately larger. This means, for example, that a projected labor force based on constant age-specific participation rates will always be larger than a projected labor force based on a constant total labor force participation rate, although the data in each case are derived from the same set of base year statistics. The present population structure and growth dynamics imply a constantly increasing crude labor force participation rate (labor supply divided by total population) unless current patterns of age-specific participation rates begin to decline.

Table 65
Projection of Population, 1980-2000
(000)

	1980	2000	Increase	% Increase
0 - 4	22,381.6	26,645.1	4,263.5	19.0
5 - 9	19,759.6	25,460.9	5,701.3	28.9
10 - 14	17,551.8	24,131.0	6,579.2	37.5
15 - 19	15,514.8	22,585.9	7,071.1	45.6
20 - 24	13,971.0	20,991.1	7,020.1	50.2
25 - 29	11,403.1	18,822 2	7,419.1	65.1
30 - 34	8,926.2	16,552.8	7,626.6	85.4
35 - 39	8,274.9	14,432.7	6,157.8	74.4
40 - 44	7,555.9	12,810.9	5,255.0	69.5
45 - 49	6,308.2	10,254.7	3,946.5	62.6
50 - 54	4,982.3	7,784.9	2,802.6	56.3
55 - 59	3,659.7	6,880.1	3,220.4	88.0
60 +	7,751.1	15,401.3	7,650.2	98.7
	148,040.0	222,753.0	74,713.0	50.5

Source: Proyeksi Penduduk Indonesia, Biro Pusat Statistik, July 1983.

4.13. Table 66 provides a slightly different view of the official GOI population projections (1980-2000) that underlie the GOI labor force projections (1983-2001) from which Repelita IV projections (1984/5-1988/9) were drawn. 40/ The table clearly shows that the

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40/ The GOI population projections appear slightly less optimistic about changes in the birth rate and, hence, marginally higher than recent IBRD projections (IBRD:1984b). Nevertheless, because the future labor force through the year 2000 is relatively insensitive to new additions to the population between now and then, we do not have to be unduly concerned with assumptions on fertility. Because of this we will only use the official GOI population projections in this section when comparing alternative labor force scenarios.

working age population as a whole (ages 10+) grows faster than the total population throughout the period 1980–2000. The working age population (ages 10+) is projected to increase at an average 2.42% rate over the period 1980-2000 compared to an average annual total population increase of 2.07%. Both rates systematically decline over time, principally through the assumed reduction of the fertility rate.

Table 66
Official GOI Population Projections, 1980-2000
(millions)

	--- POPULATION ---			Average Growth %	
	Ages 0-9	Ages 10+	Total	Ages 10+	Total
1980	41.1	105.9	148.0		
				2.53	2.22
1985	45.2	120.0	165.2		
				2.50	2.12
1990	47.7	135.8	183.5		
				2.36	2.01
1995	50.1	152.6	202.7		
				2.27	1.91
2000	52.1	170.7	222.8		

Source: Table 4.1.

4.14. A comparison of the projected growth rates in the population ages 10 and over with the actual growth rates of the prior 20 years suggests that growth of the working age population will ultimately slow to the rates of the 1960s but not until the 1990s. Unfortunately, in the meantime the working age population will have increased from 64 million in 1961 to over 170 million by the year 2000. Thus, although the rates of change will be in favorable directions, assuming the relatively conservative GOI assumptions on fertility reduction hold, the absolute size of the potential work force will have increased almost three-fold (2.7 times). See Table 67.

Table 67
Growth of Working Age Population
Ages 10 and Over, 1961-2000
(millions)

	------- ACTUAL -------			-- PROJECTED --	
	1961	1971	1980	1990	2000
Population Ages 10+	64.0	80.5	104.4	135.8	170.7
Average Annual Growth (%)	2.32	2.93	2.66	2.31	

Source: Table 65 and Table 2.14.

4.15. Impact of Participation Rates - In a very important sense labor force supply should be a relatively easy variable to project since most of the potential labor force over the next 20 years has already been born. This means that age and sex specific labor force participation rates are the only major variable that we really have to worry about projecting. Nevertheless, from our previous discussions we know that both the size of the labor force and the implicit labor force participation rates are subject to question. Although the difference between estimated census and Sakernas (labor force) survey participation rates may seem relatively insignificant at first glance (5-6 percentage points overall), the underlying absolute difference in labor force estimates is 5.7 million in 1980 and grows to more than 9 million by the year 2000, even under conservative assumptions.

4.16. Table 68 shows the major difference in the age-specific labor force participation rates of the 1980 Population Census and the relatively much higher rates projected by the GOI for 1983 through 2001. The GOI projections are essentially trend lines based on labor force survey data through 1981. 41/ With the single exception of the age 10-14 group, the GOI projected participation rates for 1983 are higher in all age categories than the 1980 census, regardless of sex. Moreover, the GOI 1983 projection of female participation rates is much higher (20.8%) on average than male rates (5.6%) when compared to the 1980 Population Census rates.

Table 68
Comparison of Official GOI Projected Labor Force
Participation Rates 1983-2001 with the 1980 Population Census Rates

	---- 1980 Census ----			-- 1983 Projection --			-- 2001 Projection --		
Age	Male	Female	Total	Male	Female	Total	Male	Female	Total
10 - 14	12.9	9.5	11.3	12.6	8.9	10.8	0.0	0.0	0.0
15 - 19	47.7	31.3	39.3	53.0	35.1	44.1	43.3	39.2	41.3
20 - 24	79.4	34.2	55.0	85.2	41.1	63.1	85.1	51.9	68.8
25 - 34	93.5	37.5	65.2	97.3	50.1	73.5	97.8	68.5	83.3
35 - 44	95.4	44.2	69.3	98.4	53.7	75.6	99.0	69.4	84.1
45 - 54	92.2	45.7	68.7	93.6	54.7	73.4	94.3	67.7	80.7
55 - 64	80.9	36.9	58.7	84.2	43.8	62.8	81.3	49.0	64.2
65 +	53.4	19.0	34.8	58.9	22.4	39.2	49.4	19.0	32.3
	68.4	32.7	50.2	72.2	39.5	55.6	71.1	48.7	59.9

Source: Proyeksi Angkatan Kerja Indonesia 1983-2001, Biro Pusat Statistik, December, 1983; and Population Census 1980, Series S, No. 2, Tables 39.7-9.

41/ Although the GOI projections are, in principle, based on both census and labor force survey data, the notes on methodology vaguely state that "indicators which deviate too far from the trend are taken out first." It is clear that census data would, in general, be considered outliers compared to the survey data. With the exception of the age 10-14 cohort, the trends in participation rates were calculated by linear regression. The age 10-14 group was assumed to decrease to a zero participation rate by the year 2001, using a parabolic function, on the grounds that universal education would be achieved.

4.17. The GOI trend line projections result in an even higher total labor force participation rate in 2001 (59.9%) than in 1983 (55.6%), despite a marginal decline in the overall male participation rate. The single most remarkable feature of the GOI projections, however, is the major increase in female participation rates. The overall female participation rate increases from 39.5% in 1983 to 48.7% by 2001. Although all age-specific female participation rates increase except for ages 10-14 and ages 65+, the greatest absolute increases (from 10.8 to 18.4 percentage points) occur in the groups age 20-54.

4.18. The second notable feature of the official GOI projections for 2001 is that no major increases are projected for any of the male age groups and major decreases are projected for ages 10-14 (12.6 percentage points), ages 15-19 (9.7 points), and ages 65+ (9.5 points). Clearly, the future labor force will become increasingly a female labor force under the assumptions of the official GOI projection. In general, the labor force, as projected by the GOI, will have relatively fewer of the youngest and oldest participants but significantly more female participants.

4.19. Size of Labor Force Projections - Table 69 amply illustrates the sensitivity of labor force projections to alternative assumptions on labor force participation rates. Six different scenarios of the future labor force are presented, all based on the same official GOI population projections but differing in their assumptions on labor force participation. The projections differ primarily on (i) whether they are based on rates derived from the 1980 census or calculated from the labor force surveys, (ii) whether participation rates are allowed to increase over time, and (iii) whether it is total labor force participation rates or age-specific participation rates that are held constant in relation to population age 10 and over. While this set of projections is to some extent contrived and could easily be replaced by dozens of other plausible alternatives, it does illustrate the sensitivity of assumptions on participation rates, and it does probably bracket the likely future labor supply.

Table 69
Alternative Labor Force Projections, 1980-2000 *
(millions)

	1980	1985	1990	1995	2000	Difference 1980-2000
1980 Census Based						
Scenario #1 - Constant Dependency Ratio	53.2	59.4	66.0	72.9	80.1	26.9
Scenario #2 - Constant Total LFPR	53.2	60.2	68.1	76.6	85.7	32.5
Scenario #3 - Constant Age-Specific LFPR	53.2	60.6	69.0	78.3	88.3	35.1
GOI Projection Based						
Scenario #4 - Constant Total LFPR	58.9	66.7	75.5	84.9	94.9	36.0
Scenario #5 - Constant Age-Specific LFPR	58.9	66.9	76.1	86.3	97.4	38.5
Scenario #6 - Repelita IV Scenario	58.9	67.0	77.0	88.5	101.6	42.7

Source: Population projections: BPS 1983a, p. 44.
Labor force participation rates (LFPR): BPS 1983b, pp. 9, 14-15.

* All estimates or projections are end of calendar year. Thus, the 1980 Census based estimates for 1980 do not agree with the actual census which was conducted during October. The 1980 estimate of the labor force for scenarios #4-6 is based on the 1983 LFPR's estimate by the GOI in "Proyeksi Angkatan Kerja 1983-2001."

4.20. Scenario #1, the base case, simply projects the future labor force on the assumption that the ratio of the total population to the labor force, based on 1980 census estimates, remains constant over time. Assuming constant real wages, average hours worked, sex composition, and economic structure, the per capita earned income of the population would, in principle, also remain constant under this scenario. The overall labor force participation rate, however, would fall perceptibly from an average 50.2% to 46.9% by the year 2000. Although the difference between scenario #1 and the other census based projections is relatively small in 1985, it becomes increasingly significant thereafter. The differences

between the GOI labor force survey based projections are, of course, considerably larger. 42/

4.21. Scenario #2 simply asks what the future labor force would be if the total labor force participation rate were held constant at the 1980 census rate of 50.2%, and scenario #3 asks essentially the same question except that it is the underlying age-specific participation rates that are held constant (thus, implicitly allowing the total labor force participation rate to vary as the population age structure shifts). Since the population aged 10 years and over (potential labor force) is projected to grow faster than the total population during the period 1980-2000, although with a slowing growth rate, the age structure will become increasingly weighted toward the relatively older age groups. Since the relatively older age categories tend to have the highest participation rates until approximately their late 50s, this means that labor force projections based on constant age-specific rate assumptions will be higher than those based on constant total participation rates. Thus, the only difference between scenarios #2 and #3 is the distinction between whether total or age-specific participation rates are being held constant. The same is true for scenarios #4 and #5 although the participation rates are derived from different data.

4.22. The last and relatively most sophisticated scenario (#6) is the official GOI projection based on age-specific trends in labor force participation rates by sex. Despite its relatively more sophisticated projection techniques, however, the official GOI projection is not necessarily a more likely outcome than the other projections. As noted previously, the GOI projection appears to be based on the relatively higher participation rates of labor force survey data and assumes that age and sex-specific participation trend lines calculated by linear regression analysis will prevail through the year 2000. 43/ Both of these assumptions are clearly open to question. Fortunately the other five scenarios provide some sense of the sensitivity of the size of the future labor force to the absence of either or both assumptions.

4.23. It is clear in comparing the two sets of projections in Table 69 (1980 census based versus labor force survey based) that the major differences from 1980 through 1990 occur between the two sets rather than

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42/ A projection based on a constant dependency ratio assumption but determined by the GOI labor force survey based rates would result in a labor force of 88.7 million by the year 2000. Although the dependency ratio is traditionally defined as population divided by employment, we have substituted the labor force concept for employment and assumed a constant unemployment rate at 1980 levels.

43/ It is also believed that the regression trend line may be somewhat biased upwards since the participation rates of the 1961 and 1971 censuses are lower than the subsequent labor force survey data of the 1970s and 1981. Both census and labor force data were mixed in calculating the regressions. However, the 1980 Census data points fell among several labor force survey observations while the earlier census data stand alone.

within the respective sets. Thereafter, the differences in labor force projections within the two sets become increasingly significant as well. In comparing the two sets of projections, we probably should ignore the total size of the labor force and simply concentrate on the projected increments to the labor force, since the size of the initial labor force is in dispute. This could arguably be justified on the grounds that it is the increments to the labor force that primarily represent the size of the future adjustment problem, not the total labor force itself. Nevertheless, to the extent that we wish to consider other questions, such as improvements in average labor productivity, we must be concerned with the total size of the labor force.

4.24. We can see from Table 69 that the projected increments to the labor force between 1980 and the year 2000 range from 26.9 million to 42.7 million and that the total labor force ranges from 80.1 million to 101.6 million. Obviously, differences of this size have significant implications for the severity of the pending employment problem.

4.25. Table 70 provides a comparison of the projected average annual increments to the labor force by five year periods of time. It is easy to see that the absolute numbers of net new entrants to the labor force increase year by year even though the average rate of growth of the labor force declines for essentially all scenarios except #6. It can also be seen that the absolute differences between most scenarios continuously widen with time. Nevertheless, the differences in the projections of net new entrants to the labor force are relatively small in the 1980s if we ignore scenario #1. In fact, there is only a 3.2 million difference between the net increment to scenario #2 and scenario #6 for the whole period 1980 to 1990.

Table 70
Comparison of Projected Average Annual
Labor Force Increases and Rates of Growth, 1980-2000
(millions)

	1980-85	1985-90	1990-95	1995-2000
Annual Increase				
Scenario #1	1.24	1.32	1.38	1.44
Scenario #2	1.40	1.58	1.70	1.82
Scenario #3	1.48	1.68	1.86	2.00
Scenario #4	1.56	1.76	1.88	2.00
Scenario #5	1.60	1.84	2.04	2.22
Scenario #6	1.62	2.00	2.30	2.62
Annual Growth (%)				
Scenario #1	2.23	2.13	2.01	1.90
Scenario #2	2.50	2.50	2.38	2.27
Scenario #3	2.64	2.63	2.56	2.43
Scenario #4	2.52	2.51	2.37	2.25
Scenario #5	2.58	2.61	2.55	2.45
Scenario #6	2.61	2.82	2.82	2.80

Source: Table 68.

4.26. Further Implications of GOI Projections - Table 71 summarizes the official GOI labor force projections as published in "Proyeksi Angkatan Kerja Indonesia 1983-2001." It is readily apparent that although the overall labor force is projected to grow at 2.81%, that the female labor force is projected to grow much faster (3.55%) than the male labor force (2.35%). As a result, almost half (48.8%) the projected increase in the labor force is female despite constituting only slightly more than one-third (36.0%) of the base year labor force.

Table 71
Official Labor Force Projections 1983-2001
(000)

	1983	1990	2001	Net Increase	Average % Increase
Male	40,641.2	47,724.6	61,731.1	21,089.9	2.35%
Female	22,834.7	29,227.3	42,785.2	20,040.5	3.55%
Total	63,475.9	76,951.9	104,516.3	41,040.4	2.81%

Source: Proyeksi Angkatan Kerja Indonesia 1983-2001, Biro Pusat Statistik, 1983.

4.27. Table 72 compares population census data for 1961, 1971, and 1980 with the official GOI projections for 1990 and 2000. The crude labor force participation rate (labor force divided by total population) increases markedly (from .357 to .456) between the 1980 census and the GOI projection for the year 2000. Even if the comparison were made with labor force survey based data, the increase would be significant (.398 to .456). The obvious implication of the GOI projections is that an increasingly greater proportion of the total population will make itself available for employment. The less obvious implication is that if we assume constant average real earnings per worker and comparable unemployment/underemployment rates between 1980-2000, that real average per capita earnings for the total population would increase 14.6% to 27.7%, depending on whether labor force survey or census base year data are used. An additional corollary is that constant real per capita earnings for the total population could also be achieved either by maintaining a constant crude labor force participation rate (LFPR) or by various combinations of falling average real earnings per worker and slower rates of growth in the labor force.

4.28. Table 72 also shows a substantial increase in the total labor force participation rate (labor force divided by population ages 10+) between the 1980 census and the GOI projection for the year 2000. The difference between initial census and labor force survey LFPRs is responsible for about two-thirds of this difference. The effect of the difference in rates on the absolute projection of the labor force may be 10-15 million by the year 2000 (see Table 69).

Table 72
Comparison of Census Data 1961-1980
with Official GOI Projections 1980-2000
(000)

	CENSUS DATA			GOI PROJECTIONS	
	1961	1971-D	1980	1990	2000
Labor Force	34,578	41,261	52,421	76,952	101,626
Population Ages 10+	63,953	80,507	104,354	135,755	170,647
Total Population	118,368	118,368	146,777	183,457	222,753
Crude LFPR	.292	.349	.357	.419	.456
Total LFPR	.541	.513	.502	.567	.596

Source: Population Census and GOI projections previously cited.

4.29. The GOI projections imply that the labor force will increase even as a percentage of the normal (ages 10+) working age population. Since we already know that participation rates for both the young (ages 10-19) and the old (ages 65+) are assumed to decline substantially, notable increases must be implied in other age categories. It is evident from Table 73 that increases in female participation rates for ages 20-54 account for most of the overall increase in labor force participation. These rates, particularly in the face of anticipated levels of urbanization and lower economic growth, would imply substantial changes in socio-economic organization. For this reason, as well as others already cited, the official GOI projections should be taken as an upper bound rather than the most likely projection of the future labor force.

Table 73
Official Projected Labor Force Participation Rates, 1983-2001
(percent)

	MALE			FEMALE			TOTAL		
	1983	1990	2001	1983	1990	2001	1983	1990	2001
10 - 14	12.6	4.8	0.0	8.9	3.5	0.0	10.8	4.2	0.0
15 - 19	53.0	49.2	43.3	35.1	36.7	39.2	44.1	43.0	41.3
20 - 24	85.2	85.2	85.1	41.1	45.3	51.9	63.1	65.4	68.8
25 - 34	97.3	97.8	97.8	50.1	57.3	68.5	73.5	77.5	83.3
35 - 44	98.4	99.0	99.0	53.7	59.8	69.4	75.6	78.7	84.1
45 - 54	93.6	93.8	94.3	54.7	59.8	67.7	73.4	76.2	80.7
55 - 64	84.2	83.1	81.3	43.8	45.8	49.0	62.8	63.3	64.2
65 +	58.9	55.2	49.4	22.4	21.1	19.0	39.2	36.3	32.3
Total	72.2	71.0	71.1	39.5	42.6	48.7	55.6	56.7	59.9

Source: Proyeksi Angkatan Kerja Indonesia 1983-2001, Biro Pusat Statistik, 1983.

4.30. Impact of Part-Time Employment - Thus far we have not explicitly raised the question of whether we are projecting full-time workers, part-time workers, some combination thereof, or whether the proportions of age/sex-specific work hours supplied are expected to change with time. We have already seen that the labor force participation rate, as currently calculated, makes no distinction between a person working one hour per week or 80 hours per week, or for that matter, working zero hours per week. We have also seen that 36.5% of those employed in 1980 worked less than 35 hours per week while 11.7% worked more than 60 hours (see Table 74). This situation would seem to suggest that it is not exactly clear what our labor force projections mean in terms of hourly labor inputs and, hence, in terms of equivalent full-time jobs. Further, it is not clear (in the absence of any known analytical attempts) whether participation rates by hourly groupings have shown any marked trends. 44/

4.31. Having raised the issue of what projections truly mean in terms of equivalent full-time jobs we must hasten to add that we cannot provide a definitive answer here. Our purpose is simply to make the reader sensitive to the issue and to point out that average labor input per worker is as important to project as the total number of workers if we are trying to obtain a true measure of labor supply. Given our present projection techniques the only way we can justify making comparisons is to assume that average labor input per worker is held constant, even if the structure of average hours worked is shifting. It is obvious that the number of work hours supplied is a function of many variables, as pointed out at the beginning of this section, and that these variables probably must explicitly be considered if our projections are to become more useful.

4.32. Table 74 is provided as a reminder to help make clear the potential risk of using raw labor force participation rates when we do not distinguish between the widely varying hours of labor input supplied. It is clear that the spread of the hourly range and the distribution of employment by sex therein should give anyone pause if they plan to project the labor force over the next 20 years on the basis of participation rates that implicitly treat each worker as an equivalent input. Given the increased significance of females in the GOI projections of the labor force, we might seriously question if average labor input per worker is, in fact, being assumed to remain constant and, if not, what this implies about total job requirements.

44/ These efforts would have to be limited to labor force surveys, primarily since 1976, because none of the Population Censuses except 1980 collected employment data by hours worked. See Table 2.16.

Table 74
Distribution of Employment by Hours Worked, 1980
(percent)

Hours Worked	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 +	12.9	9.3	11.7
Not Stated	0.8	1.5	1.0
Total	100.0	100.0	100.0

Source: Table 3.1b.

C. Labor Force Demand

4.33. Labor force demand is commonly projected at the aggregate level by multiplying employment elasticities (based on past relationships between changes in output and changes in employment) by separate projections for future economic growth. 45/ To improve the accuracy of the labor force demand projections, employment elasticities are usually calculated by economic sector, thus allowing an assessment of structural change. They are also generally calculated over periods of time long enough to presumably average out statistical anomalies but hopefully not so long as to be compromised by major changes in technology or in relative prices. GDP growth projections are derived from models of varying degrees of sophistication, almost all of which contain implicit or explicit assumptions on capital-output ratios, that are also usually based to some degree on past relationships between capital input and economic output.

4.34. It is obvious that these projection techniques are sensitive to the accuracy of data, particularly for employment, capital investment, and related output. Further, even if the accuracy of the data is assured, the underlying variables affecting the employment, capital investment, and output variables may have undergone changes during the period of observation that will not necessarily be repeated or sustained in the future. In particular, major shifts in relative factor and commodity prices, whether brought about by changes in factor supplies, technology, tastes, or politically/economically inspired market

45/ Employment elasticities measure the percentage change in employment over a specified period of time divided by the percentage change in associated output (total value added) for the same period of time.

disruptions, will not necessarily repeat themselves or be sustained. Conversely, if such changes have only recently taken place their effects will not yet be reflected in the historical data. It is clear that labor force demand projections of the above genre are predicated on (i) the accurate measurement of past relationships between the above key variables, (ii) the assumption that these relationships will continue to hold, and (iii) the ability to predict the direction and degree of change in the key underlying variables.

4.35. It should be obvious that predicting the future is difficult enough even with the best of historical data. But if the key data for employment, capital investment, and output are subject to question, as they are in Indonesia, then this particular projection technique, while of considerable interest, becomes somewhat suspect. It is against this background that the oft cited World Bank projections of Indonesian labor force demand should be viewed.

4.36. IBRD Labor Demand Projections - Although new employment studies are currently underway, the most recent explicit IBRD labor force demand projection appears in Wages and Employment in Indonesia (IBRD:1983b). 46/ References to likely employment shortfalls and/or future labor force demand appearing in other IBRD reports (e.g., IBRD:1983a, 1984a) are based on or appear to be influenced by the projection in the above citation. Various comments by GOI officials (but not the Repelita IV document itself) suggest that the IBRD estimates (and implicitly their employment elasticities) are generally accepted for the purpose of predicting labor force demand during the 1980s.

4.37. The IBRD projections of labor force demand (and implicitly their estimates of employment elasticities) have generally been taken quite seriously because of their highly unfavorable implications for employment shortfalls during the 1980s. In effect, IBRD calculations suggest that the Indonesian economy must grow at near the unusually high rates of the 1970s if the anticipated labor force of the 1990s is to be employed. Table 75 shows the IBRD projected employment growth by economic sector from 1982-1990. Even though the economy was projected to grow at an average rate of 5.2%, employment was projected to grow at only 2.0%. When compared with the average growth of projected labor supply (2.5-2.7%), the IBRD projections suggest a severe and steadily worsening employment shortfall during the latter half of the 1980s (roughly one out of every four new entrants to the labor force).

46/ The employment projections appearing in the May 1985 IBRD Report Policies for Growth and Employment were not available to this writer until after this report had been made final.

Table 75
IBRD Projected Employment Growth by Sectors, 1982-1990

	Annual Growth Rate of Output	Employment Elasticity	Projected Rate of Employment Growth
Agriculture	3.23	0.28	0.90
Secondary a/	9.73	0.40	3.90
Tertiary b/	5.13	0.75	3.90
Total	5.20	0.39	2.03

Source: IBRD:1983b, p. 132.

a/ Mining, Manufacturing, Transport, Public Utilities, and Construction.
b/ Trade and Services.

4.38. There are probably very few observers today who would be willing to challenge the IBRD projections of economic growth from 1982 to 1990 (average 5.2%) as too low and probably many that would suspect it to be too high. Thus, although the sectoral composition of projected growth might be reasonably questioned the only other realistic avenues of attack that could reverse the gloomy projections of employment shortfall would be the estimated employment elasticities themselves or the projections of new labor force entrants. Since we have already discussed labor force supply projections we will limit these comments to the IBRD estimation of employment elasticities.

4.39. Table 76 shows the IBRD sectoral estimates of average annual employment and output growth for the two periods 1961-71 and 1971-80 plus the implicit employment elasticities for those periods. Abstracting from the well-known measurement problems, it is evident that if we take the data at face value, considerable variations occured in the rate of change of average sectoral growth of both employment and output. In particular, sectoral employment growth rates appear to have accelerated substantially for most sectors between the 1960s and the 1970s except agriculture, manufacturing, and trade, each of which showed substantial deceleration in employment growth rates. The rate of growth of sectoral output, on the other hand, increased across the board (with the notable "exception" of mining), with particularly dramatic acceleration in the output growth rates for manufacturing, transport and public utilities, and construction. The general thrust of the individual sectoral changes was reflected in the acceleration of the overall rate of growth in both employment (from 2.4% to 2.9%) and output (from 4.5% to 7.3%). Nevertheless, employment elasticities fell for all sectors except construction and decreased from 0.53 (1961-71) to 0.39 (1971-80) at the overall level. Thus, although the economy was able to absorb new entrants to the labor force at substantially higher rates in the 1970s than in the 1960s, employment elasticities fell because the new employment was accompanied by an even more rapid increase in output.

Table 76
Average Rate of Employment and Output Growth
by Main Industry and Implicit Employment Elasticities, 1961-80

	Employment (%)		Output (%)		Employment Elasticities *	
	1961-71	1971-80	1961-71	1971-80	1961-71	1971-80
Agriculture	1.4	1.0	3.2	3.6	0.44	0.28
Mining	-	-	8.9	6.5	-	-
Manufacturing	5.4	4.0	3.8	12.3	1.42	0.33
Transport and Public Utilities	2.0	4.9	3.6	12.2	0.56	0.40
Construction	3.4	8.2	6.7	13.9	0.51	0.59
Trade	7.5	4.6	5.7	7.3	0.89	0.75
Services	3.0	7.8				
All Sectors	2.4	2.9	4.5	7.3	0.53	0.39

Source: IBRD:1983b, pp. 37 and 42.

* Percentage change in employment divided by percentage change in value added.

4.40. Taken at face value, this situation might imply that major structural, technological, and/or organizational changes have reduced the labor absorptive capacity of the Indonesian economy. By projecting the future labor force demand of the 1980s with the lower employment elasticities of the 1970s, however, we are abstracting from the very real possibility that the elasticities of the 1970s are an anomaly and that the major policy reforms of 1983-84 may have significant long-term positive effects on labor absorptive capacity. Implicitly, by accepting the elasticities of the 1970s we assume that employment elasticities cannot or will not revert toward the higher levels of the 1960s, even under the pressures of substantially lower economic growth and even given significant policy changes affecting relative factor prices.

4.41. Nevertheless, the major problem in using employment elasticities as a projection tool in Indonesia is that we measure changes in the nominal numbers of people employed and not changes in the amount of labor input supplied. Thus, it would appear plausible, given the inherent nature of Indonesian systems of employment, that the Indonesian labor supply will tend to accommodate itself to whatever level of output may occur more by adjusting the average hours worked rather than the nominal numbers employed and as a consequence, the underlying employment elasticities will tend to be overstated in periods of relatively slow economic growth and understated in periods of relatively rapid growth.

4.42. We might argue, for example, that had the economy only grown at 5.5% during the 1970s (instead of 7.3%), the nominal employment growth of 2.9% would probably have been little affected (because work would have been shared) and the resultant overall employment elasticity would have

been essentially the same as in the 1960s. In other words, it might be argued that the employment elasticity calculated by the IBRD for the 1970s is low simply because economic growth was high and that nominal labor supply (measured by numbers of people rather than hours of labor input) was less elastic than economic growth. If the adaptiveness of the Indonesian economy/labor force is essentially unchanged (i.e., as reflected in the employment elasticities of the more normal growth period of the 1960s) then the projected 5.2% GDP growth rate of the IBRD would be sufficient to employ the probable labor force of 1980s. Nevertheless, even if the entire nominal labor supply were "employed" (under current definitions of employment), important effects on average hours worked and/or real wage rates could be expected in the face of the relatively lower economic growth projected for the 1980s.

4.43. In sum, it is clear that the concept of employment elasticities has limitations in either forecasting labor absorptive capacity or in indicating changes in the well-being of the employed labor force. We believe the Indonesian experience of the 1970s was unusual because it coincided with a period of OPEC-spurred growth, massive public sector capital-intensive investment, significant under-pricing of capital, energy, and foreign exchange and the initial growth spurt of protected import-substitution industries. All of these factors tended to lower the employment elasticities of the 1970s compared to the 1960s and are proving to be transitory. If we couple these factors with an Indonesian labor force that tends to be fully employed in terms of numbers of workers and makes its adjustments to changes in labor demand mostly in terms of average hours worked, we may have explained the apparent anomaly of the 1970s.

4.44. More on Employment Elasticities - Before leaving the subject of employment elasticities we would like to illustrate very briefly the potential volatility/variability of the measure. Two of our illustrations will be made with the use of Indonesian data and the third with international data used in the 1983 IBRD report on Wages and Employment in Indonesia.

4.45. In our first example, Table 77 shows three calculations of the total employment elasticity for Indonesia for the periods 1961-71 and 1971-80. Average GDP growth is identical in each of the three cases, only the rate of growth in employment differs. The rate of growth in employment differs because (i) the IBRD uses the growth of the ages 10+ population as a proxy for employment growth, and (ii) Case II and Case III use competing versions of the 1971 census in the calculation of employment growth. Case II, which uses 1971 Series C employment data that are generally believed to be most comparable to the 1980 census, yields a relatively similar elasticity to the IBRD for the period 1971-80. Nevertheless, the table should provide some sense of the risks of using employment elasticities. Case III, for example, using the official final 1971 Census Series D results, gives employment elasticities almost the reverse of the IBRD calculations, and would suggest that the lower economic growth of the 1980s would not present much of an employment absorption problem.

Table 77
Three Calculations of Total
Employment Elasticities, 1961-71 and 1971-80

		Growth in Employment (%)			Implicit Employment Elasticities		
	Average % GDP Growth	Case I IBRD	Case II 1971 C	Case III 1971 D	Case I IBRD	Case II 1971 C	Case III 1971 D
1961-71	4.5	2.4	1.83	1.41	.53	.41	.31
1971-80	7.3	2.9	3.01	3.49	.39	.41	.48

Source: IBRD 1983b, 1971 Census Series C and D, and 1980 Census.

4.46. Table 78 shows "employment elasticities" calculated on the basis of labor force survey data from 1976 through 1982. 47/ It can be seen from the wide variation in employment elasticities on a year-by-year basis that significant problems in the measurement of employment apparently exist. It can also be seen that the employment elasticity for the period 1976-82 (calculated on end points) is rather high (.549) and would suggest that the labor absorption capability of the economy is much higher than suggested by the lower employment elasticity (0.39) calculated by the IBRD for 1971-80. Nevertheless, given all of the problems previously reviewed, the fact that we are dealing with two different data souces on employment, and given the risks posed by calculating elasticities over long periods of time on end data points alone, we would not necessarily offer one calculation as superior to another. We would also note that, on the surface, the results of 1976-82 calculation may contradict our earlier hypothesis that employment elasticities in Indonesia will tend to be understated in periods of rapid growth.

Table 78
Labor Force Survey Based Employment Elasticities, 1976-82

	Average % GDP Growth	% Change Employment *	Employment Elasticity
1976-77	8.9	4.2	.472
1977-78	7.7	7.5	.974
1978-79	6.3	- 0.8	- .028
1979-81	8.9	7.4	.831
1981-82	2.2	- 2.0	- .909
1976-82	7.1	3.9	.549

Source: Various BPS publications.
* Labor force data were used as a proxy for employment.

47/ Although growth in the labor force rather than employment was used in the calculations, the effect should be minor given the relative stability in unemployment rates. See Table 34.

4.47. Table 79 presents employment elasticities calculated on output and employment data provided in the 1983 IBRD report on Wages and Employment in Indonesia. The only purpose of the table is to illustrate that employment elasticities have apparently increased in other Asian countries during periods of modernization, e.g., Japan, Korea, and Taiwan. This would presumably suggest that the same possibility exists elsewhere, including Indonesia.

Table 79
Comparison of Employment Elasticity Trends
in Selected Asian Countries

	Avg. Output Growth %	Avg. Growth Employment %	Employment Elasticity
Indonesia			
1961-71	4.5	2.4	.533
1971-80	7.3	2.9	.397
Japan			
1887-1902	2.3	0.7	.304
1905-1917	5.2	0.6	.115
1917-1937	3.3	0.8	.258
1937-1962	-	1.5	-
Korea			
1960-1970	8.4	1.7	.202
1970-1978	10.2	4.1	.402
Taiwan			
1952-1962	8.0	1.6	.200
1962-1972	11.3	2.8	.248

Source: IBRD (1983b), Table 4.2.

D. Employment Shortfalls

4.48. It is obvious from the last section that we did not resolve the question of future labor demand. Basically, we suggested that the labor force will tend to be "fully employed" but that the real question will be for what number of average hours and at what real wage rates. Despite our view of the adjustment process, for illustrative purposes we will b[illegible]ly compare IBRD inspired labor force demand scenarios with the labor [illegible] supply projections provided earlier. We will then very briefly c[illegible]der (i) likely adjustment responses, (ii) sex, age, and s[illegible]-economic groups, and locations most likely to be adversely a[illegible]cted, and (iii) probable impact on average real household incomes.

4.49. Comparison of Scenarios - Table 80 compares for the 1980s four labor demand scenarios with the six labor supply projections from Table 69, plus the official GOI projection for population aged 10+. IBRD estimates of labor supply growth for the 1980s are also noted.

4.50. If we take the IBRD estimates of the employment elasticity for the 1960s as a maximum estimate of labor force absorption and the elasticity for the 1970s as a minimum, we can probably pretty well bracket likely growth in labor force demand in the 1980s by accepting the IBRD medium projection of 5.2% GDP growth as an upper possibility and the IBRD "pessimistic oil outlook" scenario of 4% GDP growth as a reasonable lower possibility. The medium growth-low elasticity projection of labor force demand (#1) is the IBRD (1983b) estimate commonly used in calculating employment shortfalls. It is evident from just these four scenarios that growth in labor force demand is highly sensitive to both GDP growth rates and employment elasticities.

Table 80
Comparison of Labor Demand
and Labor Supply Projections for 1980s

	Real GDP % Growth	Employment Elasticity	% Growth Employment
Labor Demand Projections (1982-90)			
Medium Economic Growth			
#1 - Low elasticities of 1970s	5.2	0.39	2.03
#2 - High elasticities of 1960s	5.2	0.53	2.76
Low Economic Growth			
#3 - Low elasticities of 1970s	4.0	0.39	1.56
#4 - High elasticities of 1960s	4.0	0.53	2.12

	% Growth Labor Supply
Labor Supply Projections (1980-90)	
#1 - Constant dependency ratio (Census)	2.18
#2 - Constant total LFPR (Census)	2.50
#3 - Constant age-specific LFPR (Census)	2.63
#4 - Constant total LFPR (Sakernas)	2.51
#5 - Constant age-specific LFPR (Sakernas)	2.60
#6 - Official GOI trend analysis (Sakernas)	2.72
Projected Population growth ages 10+	2.52
IBRD estimates of labor supply	2.6-2.7

4.51. We can see from Table 80 that only under the high elasticity-medium growth scenario (#2) is labor force demand likely to grow as rapidly as nominal labor force supply. 48/ With the exception of

48/ With the exception of the IBRD labor demand projection in scenario #1, all projections have been calculated on the basis of overall employment elasticities rather than sectoral elasticities. It would, of course, be more accurate to use sectoral elasticities and make specific assumptions on sectoral growth, but for our purposes (which are illustrative) the above methodology will suffice.

the constant dependency ratio scenario all labor force supply projections for the 1980s range between 2.5 and 2.7%. Although we must always keep in mind that we are dealing with projected growth in nominal labor force supply, as opposed to units of labor time, the illustrative scenarios suggest that only under somewhat optimistic economic growth assumptions is there a reasonable possibility that labor demand may match labor supply during the 1980s, without a reduction in the average hours worked. Nevertheless, even the meaning of labor demand projections are open to question when they have been calculated on the basis of employment elasticities relying solely on changes in nominal employment without holding average hours of labor input constant.

4.52. Likely Adjustment Responses - We have already suggested that the Indonesian labor force will make its adjustments to changes in labor demand primarily through the adjustment of hours worked rather than in the numbers entering or leaving the labor force or in assuming the status of open unemployment. In other words, we would not expect major increases in either open unemployment or in "discouraged workers" should effective labor demand fall short of effective labor supply during the 1980s. In nominal terms the annual employment shortfall during this period might range from a situation of excess demand for labor (zero shortfall) to close to one-half million workers, depending on the labor demand scenario. Nevertheless, under our hypothesis of automatic nominal full employment we would anticipate the nominal numbers of the employed labor force to grow at roughly the same rate as labor supply, or 2.5-2.7% per annum.

4.53. Beyond the probable downward adjustments in average hours worked, we might reasonably expect to see greater shifts in employment toward the services, trade, and transportation sectors, especially among the informal sector components. We might also see a slowing in the nominal shift in employment away from agriculture and the rural sector if and as the relative growth dynamism in the economy shifts from the urban to the rural areas.

4.54. Groups and Locations Likely to be Affected - It is obvious that the particular groups and locations most adversely affected by adjustments in the labor markets of the 1980s will depend primarily on the sectoral patterns of economic growth. It seems likely that the slowing of growth in the petroleum-led mining sector will directly affect urban areas more than the rural. Similarly, the current and probable continuing stagnation in the manufacturing sector, to the extent that it largely reflects medium- to large-scale industry, will largely directly affect the urban sector. Nevertheless, because the economy is intertwined both directly and indirectly and because temporary and circular migration blurs the distinction between urban and rural employment, we can expect the rural sector to suffer with the urban areas if the probable downturn in mining sector growth and the stagnation of the manufacturing sector continue.

4.55. Although the economic structure and the sectoral compositions of employment differ substantially between Java and the outer islands and it can be expected that the lower and changing composition of economic growth will have differing impacts thereon, it is not immediately clear that the employment situation will worsen in some areas compared to

others. Intuitively, we might expect the employment situation to relatively worsen in the poorer areas, particularly on the island of Java. Offsetting this factor is the relatively slower growth in the working age population on Java compared to the outer islands and the performance of rice agriculture. Nevertheless, population densities, relative income levels, current intensities of agricultural cultivation, the achievement of rice self-sufficiency, the difficulties of agricultural diversification, the relative lack of non-oil export commodities, and past provincial growth performances suggest that the island of Java (in the absence of significant transmigration) will feel greater employment pressures than the large outer islands, but not necessarily the eastern islands. A detailed analysis is obviously needed to sharpen and harden these intuitive conclusions.

4.56. In terms of sex, age, and socio-economic groups, it is likely that adjustments in average hours worked will be borne most heavily by the young, the old, and females. It is not clear that the very poorest can allow their work hours to diminish and we might expect the adjustment to be shared more among the middle 60 percentile than either the lowest or highest 20 percentiles. It is likely that those already working less than 35 hours per week will bear more of the adjustment than those working longer hours. Although it is conceivable that the very poorest might work longer hours if real wage rates were to decline, it is most likely that adjustments to relatively diminished work opportunities will take the form of lower average hours worked even in the face of constant or slight declines in the real wage rate.

4.57. Impact on Real Household Incomes - Although it is far from clear exactly how the labor market situation will evolve during the remainder of the 1980s, there is some reason to believe that average real household incomes will not fall. Holding real wages and the average hours worked per worker constant, labor force demand would only have to grow at 2.2% in order to maintain a constant dependency ratio and, hence, to maintain constant average household earned incomes. Given that the employment elasticity probably lies closer to the IBRD calculations for the 1960s than for the 1970s, this rate of increase in labor demand (2.2%) should be manageable with non-oil GDP growth of 4.5-5.0%. (If the employment elasticity were as high as the 1960s a growth rate of 4.2% might suffice.) Nevertheless, it should be clear that this does not imply that average earnings per worker will remain constant. In fact, average earnings per worker would be expected to fall even though average earned incomes for households remained constant. How far average earnings per worker might fall would depend on the nominal growth in labor supply. 49/ To turn the question around we could also point out that, using

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49/ It is important to understand how impressionistic the above conclusions are. Obviously, the particular composition of sectoral economic growth that evolves will greatly affect returns to labor and employment absorptive capacity. Similarly, the major policy changes of 1983-84 can be expected to favorably affect labor absorptive capacity and labor productivity. Finally, we have not considered possible positive impacts of inter-island redistribution of population. Although the basic conclusions above appear reasonable, much work, including simulation analysis, needs to be done in the above areas.

comparable employment elasticities, it would take non-oil GDP growth of 5.5-6.1% to maintain constant average earnings per worker if nominal labor supply grew at 2.7% and if the sectoral composition of growth remained unchanged. Of course, this particular situation would also imply rising real per capita earned incomes. In sum, we have to be careful to read the fine print when considering the implications of varying levels and compositions of non-oil GDP growth on labor absorption, real wage rates, average real earnings per worker, and average real earnings per household.

4.58. In Sum - It should be clear that all of the preceding is impressionistic and intuitive--and certainly not definitive. What this type of analysis suggests is that, in principle, Indonesia can survive the next several years of almost certain rapid labor force growth without massive social-economic disruption and possibly without falling real per capita household incomes among the bottom 80 percentile. 50/ Nevertheless, the analysis suggests that the employment situation critically depends on the economic performance of the economy. Economic growth below 4-5% for extended periods of time is simply not consistent with maintaining real levels of welfare and presumably with political stability in the harder-hit areas and among the harder-hit groups. Although there is reason to believe that the urban areas of Java may face the greatest relative employment pressure, it is in the rural areas of Java where the greatest poverty and numbers of underemployed exist and much of the future growth in labor force will originate.

50/ This conclusion depends critically on the hypothesis relating to Indonesian labor force adjustment patterns, i.e., that adjustment tends to be made more in average hours worked rather than in nominal numbers employed. To the extent the sharing of employment does not occur, this conclusion is weakened. Collier et al. (1982a) have expressed concern that village social security systems have eroded with increased labor mobility. Obviously, this question should receive further attention.

V. OPTIONS FOR IMPROVING EMPLOYMENT PROSPECTS

5.01. It is not large populations per se, population density, or even rapid population growth, that necessarily determine whether a country has an "employment problem." Rather, it is the juxtaposition of population against a myriad of factors including cultivable land, natural resources, stocks of physical and human capital, and the economic climate and institutional structure in which the factors of production cooperate. For whatever reasons a country happens to arrive at a given point in time with a particular portfolio of cooperating factors of production, it is the per capita balance of cooperating factors, including the systems in which they work, that principally determines the prospects for employment, growth, and income levels.

5.02. Obviously, some countries have better prospects than others. In Indonesia's case the per capita ratios of cultivable land and human capital to population both appear quite low, per capita physical capital appears relatively low, and natural resources seem above average. 51/ Finally, although clearly beset with long-term issues that need to be addressed, the institutional framework and the economic system in which these factors work appears clearly preferable to the situations found in a great many other countries.

5.03. Nevertheless, because Indonesia is relatively poor in per capita income terms, has 40% of its population already living in relatively abject poverty, and is faced with diminished prospects for long-term economic growth at the same time as it is faced with rapid increases in its labor force, the scope for management of the economy would appear increasingly constrained by the need to explicitly address the politically sensitive employment problem. It is within this context of probable growing urgency that we explore some of the potential options for improving employment prospects in Indonesia.

5.04. Policies and Strategies as Key - We see the essential possibilities for improving employment prospects in Indonesia largely in terms of a search for better development strategies and implementing policies. As part of this search we also see a possible requirement for rethinking and simplifying development objectives. Because we believe that much of what needs to be addressed is under the direct control of government, is the result of existing government regulation or policy, or is the logical responsibility of public policy from the standpoint of the theory of public goods, by necessity, the focus in this paper will be on government policy.

51/ Human capital refers to the education, training and skills embodied in human beings. Physical capital refers to inanimate objects such as buildings, machinery, etc. Factors of production refer to land, labor, capital, and natural resources. High and low are obviously relative to other countries of similar per capita income levels and are purely subjective.

5.05. This does not mean, however, that we believe that the long-term solution to the employment problem lies primarily in the hands of government. To the contrary, we see the solution ultimately in terms of better functioning of markets, increased resource allocation efficiency (and, hence, productivity), and sustained growth. We see these results as most plausible if government further increases its reliance on market mechanisms by reducing some of the more significant policy-induced distortions created by previous government actions and if government improves direct allocation of its own resources. Implicitly, the private sector must not only assume a greater role in the economy, as suggested by the indicative planning of Repelita IV and various public statements by GOI officials, but it must also be induced and allowed to play a more efficient, productive role. Similarly, since government itself directly allocates approximately one-fourth of all resources in the economy, including one half of capital investment, it is crucial that government pay attention to factor prices and labor-intensities in making its decisions. In the best of all worlds all of the above could be set in motion by a judicious selection of corrective policy actions and reforms on the part of government.

5.06. We see numerous policy areas that have potentially significant direct and indirect employment impact. Most of the policy directions we will suggest below would have a favorable impact on employment even in the absence of policy changes in other areas. Nevertheless, it is clear that the impact on employment will be stronger the greater the number of suggested policy changes brought to bear on the problem. Further, it is also clear that no single policy action is likely to resolve the employment problem by itself and that some policies only make sense in the context of a policy package. The need for a focused, coordinated set of employment policies seems obvious.

5.07. Formulation of an explicit employment strategy helps to make sense out of the many potential policy actions and to judge their relative importance and complementarities. The formulation of an explicit strategy has the further benefit of requiring a clarification and definition of objectives. We will attempt to organize the comments in the remainder of this paper around an employment strategy framework that both provides a clear logic of action and a wide menu of possible policy directions — but which does so without setting a rigid plan of action. The approach presented is market oriented with the focus on improving long-term productivity. It offers an economically feasible resolution to the twin problems of incomes and employment without relying exclusively on either economic growth or increasing labor intensities of output.

5.08. In the remainder of this section we will consider (i) basic choices in the formulation of an employment strategy, (ii) key government policy areas affecting employment and incomes, (iii) core strategy elements and indicative policy directions for increasing productivity, employment, and incomes, and (iv) relative importance and time profiles of potential policies.

A. Basic Choices in Formulating an Employment Strategy

5.09. The solution to the employment problem obviously depends on the definition of the problem. If the problem is merely perceived as

providing jobs, a wider set of options may suggest themselves than if the employment problem is perceived as both providing jobs and maintaining/increasing real household incomes in the face of a growing labor force. Since we define the employment problem in terms of both incomes and employment, our range of options will be narrower but presumably more politically and socially palatable. 52/

5.10. There are three fundamental ways of speeding up the growth of employment in an economy: (i) by increasing the average labor intensity of output, (ii) by increasing the rate of economic growth, and (iii) by introducing programs that provide employment but produce no output. We will argue that while it is obvious that only the first two options make any sense in terms of a long-term incomes/employment strategy, it is essential that measures taken to increase the labor intensity of output do not needlessly reduce the prospects for economic growth. Although it is conceivable in principle that high growth by itself could offer a solution to the income/employment problem, a strategy based solely on increasing the labor intensity of output can only succeed for a limited time (probably the mid-term) in the face of a labor force growing at 2.5-2.7% and given the present excess labor supply.

5.11. In the longer term a strategy based on increasing the labor intensity of output can only succeed when accompanied by economic growth sufficient to pay for the increments to employment, to pay for increased real wages if they are to come about, and to reward and induce cooperating factors of production. It is imperative that the actions taken to increase the labor intensity of output do not materially reduce the supply of cooperating factors of production if growth is not to be ultimately sacrificed. Fortunately, given the present level of distortions in the Indonesian economy (mostly policy-induced) and the potential for improved government resource allocation, we do not see a major conflict or dilemma in pursuing a simultaneous growth and labor-intensification strategy that is focused largely on the removal of these distortions and the improvement of government resource allocation. Indeed, in our opinion, this is potentially the strongest of approaches and the most likely to succeed over the long term. We will return and amplify these remarks after briefly considering the three basic ways of speeding up the growth of employment in an economy.

5.12. Increasing the Labor Intensity of Output - Increasing the labor intensity of output simply means that more units of labor input are required to produce a given amount of gross national product than was

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52/ Simply stated the employment problem may be thought of as the apparent inability of the Indonesian economy to provide sufficient productive job spaces/work at "adequate" wage rates. Alternatively, and more elaborately, it might be defined as the uncertain ability of the Indonesian economy with its present structure, policies, and institutional arrangements to provide economically productive employment opportunities, to all who seek employment, sufficient to maintain (but preferably increase) real household income levels, without materially worsening income distribution.

previously the situation. It is clear, however, that the methods by which the labor intensity of output is increased are critical to whether this approach contributes to or detracts from the long-term resolution of the income/employment problem. The labor intensity of output can be increased in two fundamental ways: those that increase the market demand for labor (and are implicitly productive) and those that mandate the use of greater amounts of labor by government fiat or regulation (and may or may not be productive). It is obviously preferable that actions taken to increase labor intensities do not result in a decrease in total output through declines in productivity and even more preferable if they result in an increase in total output, both through an increase in the total use of labor and an increase in productivity.

5.13. Fortunately, Indonesia has a number of policy options that will tend to increase the labor intensity of output while at the same time increasing total factor productivity and, hence, growth. Because the emphases of the policy changes we have in mind are focused on increasing long-term productivity, they should not pose a threat or burden to other factors of production as a class, although individual exceptions will arise, particularly if the issue of monopoly rights were to be addressed. The particular policy options we have in mind would tend either (i) to improve market resource allocation, (ii) to improve government resource allocation, or (iii) to improve/stabilize the spatial distribution of population. We will presently explain further how the above might be achieved.

5.14. Before turning to the role of economic growth, a last few points should be made on what we are seeking or not seeking by taking measures to increase the labor intensity of output. First, we are not seeking to simply share the same quantity of work (total labor hours) among greater numbers of individuals. Indeed, this would not even qualify as an increase in labor intensity and would only result in a more equitable share of the poverty at best. Second, it does little good to increase the labor intensity of output if it is not accompanied by an increase in total labor usage (i.e., total labor hours). In other words, it is self-defeating to increase labor intensities in a way that results in reduced output and less total labor usage/employment than before policy actions were initiated. Third, increasing the labor intensity of output is clearly an attractive alternative for solving the income/employment problem if it can be achieved without reducing the real wage rate or total output. Our proposals permit both greater labor intensities and maintenance of the average real wage rate -- while at the same time increasing total output. Fourth, even a fall in the average real wage rate might be acceptable if accompanied by an increase in total labor usage that resulted in substantial improvement in real household incomes. An outcome that required greater inputs of labor without reasonably proportional increases in real income is probably not acceptable and an outcome that simply traded greater employment for proportionately lower wages would be totally unacceptable.

5.15. Increasing the Rate of Economic Growth - Increasing the rate of economic growth is perhaps the most obvious solution to the income/employment problem and conceivably the least painful, depending on the available policy options. Even in the absence of increased labor

intensities of output, an increased rate of economic growth would generally imply the ability of the economy to absorb labor at an increased rate without downward pressure on the real wage rate. At a high enough economic growth rate increases in the labor supply could be effortlessly absorbed. 53/ Further, a sustained high rate of economic growth would provide the obvious means for ultimately financing higher real wage rates, assuming they are justified by improvements in marginal labor productivity.

5.16. Nevertheless, increasing the rate of economic growth is generally easier said than done. Assuming perfect markets, growth is thought to be a function of the levels of cooperating factor inputs/resources (e.g., physical capital, human capital, unskilled labor, land, etc.), the state of technology, and the savings-investment rate. However, in the absence of perfect markets the sources of growth will also include those measures that tend to correct the markets. This might include anything from correcting factor prices, to removing barriers to competition or resource mobility, to improving the actual choice of applied technology, to decreasing transaction and information costs, to improving management.

5.17. In other words, in the real imperfect world there are many sources of increased productivity/growth that do not require the discovery of new technology, an increase in the savings rate, external/exogeneous injections of financial capital, or increases in cooperating factors of production. In many of the cases where the market has been distorted by government policy, increased productivity will result by simply reversing or eliminating the distorting policy. Many of these potential policy actions have no net budgetary cost at all. In addition, at least in principle, the gains from policy actions taken to correct the market could compensate individuals that might be worse off as a result of a policy change.

5.18. Other potential policy actions to improve the prospects for growth might involve changes in government sectoral priorities, changes in the way government evaluates and makes its investment decisions, and changes

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53/ Alternatively, the labor force could, in principle, be absorbed by varying the composition of sectoral growth patterns without increasing the overall growth rate. This, in fact, would tend to occur under the types of policy directions that will be recommended to increase both the labor intensity of output and overall economic growth. Nevertheless, it should be clear that sectoral growth patterns cannot simply be juggled in order to absorb labor--without reference to sectoral demand patterns. To do so would invite lower long-term economic growth and, ultimately, less labor absorptive capacity. The policy directions that will be recommended will both sharpen the sensitivity of the economy to changes in market demand and increase efficiency on the supply side, therefore, increasing growth. By their very nature our recommendations will tend to favor growth more in the labor-intensive sectors of the economy, but not at the expense of overall growth.

in the fundamental growth/development strategy that underlies present government planning, thinking, and policy formation. We will consider these possibilities at greater length somewhat later. For the time being it is sufficient to say that, first, we see numerous possibilities for increasing productivity (and, hence, growth) through policy measures that improve both market resource allocation and government resource allocation; second, we see considerable scope for shifting from the current increasingly questionable inward-looking growth/development strategy to an outward-looking export oriented strategy which is both inherently more labor intensive by nature and is, in principle, sustainable at even higher levels of growth over the long-term; and, third, we see improved skill characteristics of the population/labor force as a necessary and complementary ingredient to the longer-term prospects for growth, increased labor productivity, increased real wages and, of course, increased family incomes.

5.19. Employment Programs Without Output - To some extent this option for increasing employment might be construed as a "strawman," i.e., as a weak, non-alternative designed to make other alternatives look more attractive. It is obvious, for example, that "make work" employment programs are merely inefficient income transfer mechanisms that waste administrative costs, and that probably trade long-term productive employment opportunities, to the extent that investment and growth are otherwise reduced by the cost of the programs, for current non-productive employment. Certainly, non-productive (non-output) employment programs do not lay the foundation for either financing themselves, for financing larger such programs, for increasing real wage rates, or for maintaining real family income levels. To the contrary, non-output employment programs progressively erode the ability of the economy to provide any of the above.

5.20. Why then should we bother to discuss such an option? And what would such a program look like? The answers are relatively simple. Increasing employment pressures sometimes induce governments to take the easy way out. Rather than address the more difficult choices involving substantive policy reform in the areas of resource allocation and growth/development strategy, it may seem easier to simply employ excess labor supply with government budgetary resources, usually through the hiring of excess civil servants or military personnel. Although it is difficult to demonstrate the probable low marginal productivity of additional civil servants or military, substantial or sustained increases in their proportions relative to the population as a whole should be cause for some alarm.

5.21. Fortunately, we do not see this as a major problem in aggregate for Indonesia at this point although we are quite concerned with recent trends. The civil service and the military combined are probably not much more than 3 million at present or perhaps 5% of total employment. And of total civil servants approximately half are reported to work in education or health (Jakarta Post 1/85). Nevertheless, Indonesia's civil service increased in size by 57% between 1975 and 1983 with more than 60% of the increase taking place in the two year period 1981-83. Further, a recent newspaper account suggests the increase may have been close to 75%

for the period 1975 through 1984. 54/ These trends should be cause for major concern given that population growth during the comparable period (1975-84) probably did not increase more than 25%. Although this period coincided with rapid expansion of the educational system and, hence, increased teacher hirings, the recent rapid growth in civil service employment probably suggests that Indonesia's civil service hiring policies need to be more closely scrutinized. In particular, given growing employment pressures in general, but particularly the rapid increases in secondary graduates, their high unemployment rates, and their reported overwhelming preference for government employment, the government must be prepared to resist pressures to become the employer of first resort. It should be obvious that a rapidly growing economy with an expanding private sector offers potentially far better use and greater rewards to these graduates than potentially redundant employment in government.

Table 81
Civil Service Employment
in Indonesia, 1975-83

1975	1,674,871
1978	1,760,419
1981	2,047,080
1983	2,628,474

Source: Statistik Indonesia, various years.

B. Key Policy Areas Affecting Incomes and Employment

5.22. Before considering the construction of an incomes/employment strategy framework we will identify and briefly comment on what we think are some of the more important broad policy areas affecting incomes and employment. We do not pretend our list is exhaustive nor our comments definitive. Our purpose is simply to draw attention to the wide diversity of government policy areas that relate to the incomes/employment problem and to spark the imagination in terms of what might be done about the problem. We have taken the liberty of very subjectively evaluating ten broad policy areas relating to employment and incomes in Table 82. Brief comments follow.

54/ The Jakarta Post 1/85 reports over 3.3 million civil servants and military were on government payrolls at December 1984 (approximately 21 months beyond the last reporting date 3/83 in Table 81). The military apparently accounts for about 400,000 out of this total.

Table 82
Ten Key Policy Areas Affecting
Employment and Incomes

Policy Areas	Current Subjective Performance Rating
Macro-Economic Stabilization	Very Good
Factor Pricing	Good
Public Sector Investment/Budgetary Decision Making	Fair
Industrial Policy	Poor
Trade Policy	Mixed/Poor
Agricultural Policy	Fair/Good
Education/Training Policy	Fair
Family Planning Policy	Good
Urban-rural/Inter-island Spatial Distribution Policies	Fair
Public Sector Employment	Fair/Good

5.23. Macro-Economic Stabilization - Macro-economic stabilization of the economy is important to current employment and income levels because it reduces/smooths unnecessary fluctuations. It is important to future employment and incomes because it tends to improve the investment climate and business expectations and, thus, tends to promote growth. Macro-economic stabilization tends to work through the traditional tools of monetary, fiscal, and balance of payments policy and to focus on the achievement of simultaneous balance in external, budgetary, and monetary accounts.

5.24. The Government of Indonesia (GOI) has consistently strived for macro-economic stability during the Soeharto Era, although not always successfully or without resort to non-corrective policy measures. Nevertheless, the GOI has negotiated a highly successful period of macro-economic adjustment following the OPEC oil price/quota decision of February 1983, largely through the use of corrective rather than repressive policy measures. Although presently under some criticism for underspending of the 1984/85 budget, in the space of two years the GOI has basically managed to achieve its major adjustment objectives -- reversal of capital flight, reduction of the current account deficit to sustainable levels, maintenance of the real effective exchange rate established at devaluation, maintenance of domestic price stability, and containment of domestic budgetary expenditures -- while restoring

economic growth in two successive years to the 5% range and making other policy reforms essential to the longer-term economic transformation issue. Although we judge Indonesia's present approach to macro-economic stabilization and adjustment conservatively sound, and for the most part exemplary, it will soon become clear that we not think so highly of certain other key policies directed at the longer-term issues of economic transformation.

5.25. Factor Pricing - It is absolutely crucial to economic efficiency and employment and incomes that major distortions in the pricing of factors of production be avoided. Mispriced factors of production result in choices of inappropriate technology that can literally take a generation to correct, even after prices have changed. Simply speaking, major distortions in factor prices create major distortions in capital investment patterns that are neither easily nor speedily corrected. The legacy of factor price proportions of another era tend to live on in the existing capital stock, dictating factor proportion use patterns that may have little relevance to the current set of factor prices.

5.26. Unfortunately, Indonesia witnessed major distortion of factor pricing in the 1970s and early 1980s during a period of particularly large (oil-financed) increases in capital investment. Equally unfortunate, the distortions were invariably biased against labor usage and were the direct result of government policy. The GOI consistently followed policies during this period that underpriced financial capital, foreign exchange and energy in relation to unskilled labor. The end result was the encouragement of highly capital-intensive investment that also tended to be energy-intensive, import-intensive and skilled labor intensive in its input use. Although it is clear that much of the economy, particularly the traditional and small scale sectors, did not have access to cheap (low-interest) capital and was, therefore, relatively unaffected in terms of its long-lived capital stock, it is equally clear that the Indonesian government missed a major opportunity to address the employment problem more effectively.

5.27. The policy reforms of 1983-84 have done much to rectify the worst distortions in the price of capital, foreign exchange, and energy. Deposit and lending rates were freed, sectoral credit ceilings abolished, the rupiah substantially devalued, the real effective exchange rate subsequently maintained by a managed float, and the domestic price of oil-fuel essentially raised and maintained at world market levels. Nevertheless, the task is not entirely complete. Substantial amounts of highly subsidized credit are still made available to sectors deemed high priority by the government and capital mobility within Indonesia (in both urban and rural areas and the outer-islands) is noticeably constrained by restrictive branch banking regulations. Further, although substantial progress was made in the factor pricing reforms of 1983-84 it is vital for long-term growth and employment prospects that the new factor pricing spreads (which favor labor use) be maintained. This means the GOI must continue its current policies toward maintaining the real effective exchange rate, toward allowing the market to determine deposit and lending rates and credit allocations, and toward maintenance of near world-market pricing of domestic energy consumption, including public utility cost pass throughs.

5.28. Public Sector Investment/Budgetary Decision Making - As noted earlier the government, besides indirectly affecting market resource allocation through its extensive regulatory powers, directly allocates one-fourth of all resources in the economy and makes one-half of all capital investment decisions. The allocative authority of the government, including public enterprises, is immense. It is less clear that the capacity of government to plan, analyze, evaluate, implement, and manage resource and investment allocation decisions matches either its authority or its responsibility. This is cause for grave concern in a time of lowered economic growth expectations and increased employment pressures. Clearly, since increased resource allocation efficiency is key to both growth and employment prospects, Indonesia cannot afford to ignore the possibilities for improving the management of such a large portion of its resources.

5.29. There would appear to be several aspects of government resource allocation that might offer opportunities for both increased resource allocation efficiency and greater employment impact. Obvious areas to consider would include: (i) the sectoral allocation of budgetary expenditures, (ii) the choice of techniques and allocations within a sector, (iii) the use of appropriate project evaluation methodology and market discount rates in evaluating capital investments, and (iv) the use of full cost recovery public utility pricing policies. In addition, the government might also consider as a matter of standard policy: (i) requiring especially critical examination of all large scale public sector capital projects (including their approval by the Coordinating Ministry for Economics, Finance, and Industry Affairs), (ii) establishing the policy and a capacity to use the INPRES rural infrastructure construction program as a counter-cylical rural incomes/employment stabilization tool, (iii) strengthening the present policy trend toward requiring public sector enterprises to finance their capital requirements through the commercial markets, and (iv) improvements in GOI's capacity to execute and implement at middle civil service levels.

5.30. Industrial Policy - The major problem with Indonesia's industrial policy is that it appears to work to the advantage of only a chosen few. Indonesia's industrial policy strongly discourages either domestic or foreign competition by the use of restrictive, often monopoly, licensing rights and by inducing the ad hoc use of highly protective trade policy instruments, including import bans, quotas, sole importer licenses, and tariffs. The result of this restrictive, inward-looking, trade-protected industrial policy has been gross inefficiency in resource allocation, very little new employment generation in the modern medium to large scale sector (457,000 new jobs 1975-1983), high costs to downstream producers and consumers, and (during the last three years) a stagnating manufacturing sector with a high degree of excess capacity.

5.31. Indonesia's industrial, trade, and credit policies have almost universally discriminated against the labor-intensive small scale and cottage industry that provide 80% of manufacturing employment in favor of a relatively small number of medium to large scale industries that employ less than 2% (1.1 million) of the total labor force. In order to provide a protected, basically non-competitive, environment to a relatively few large scale (capital and import-intensive) public sector and private

sector enterprises, Indonesia is sacrificing its long-term growth, export, and employment potential. Clearly, neither the other 98% of the labor force nor the Indonesian consumer can afford a public or private sector industrialization strategy that promises few jobs, few exports, low long-term manufacturing sector growth, and low long-term GDP growth.

5.32. Indonesia needs to reconsider its priorities with respect to the industrial sector. The potential well-being of the rest of the economy should not be sacrificed for the privileged few. For the sake of long-term improved efficiency, export performance, overall economic growth, and employment, Indonesia must shift toward an outward-looking export-promotion industrial-trade strategy. Indonesia must reconsider its approach to industrialization and realize that less control and fewer barriers will provide greater efficiency, greater growth, greater exports, and greater employment. It is important to understand that Indonesia does not have to give up its industrial aspirations but rather that it should stop financing industries that it really cannot afford and support industries that truly pay their own way without special favors, dispensations, or protection. This would suggest a set of policies that dramatically deregulate, eliminate, and simplify industrial, commercial, and trade licensing with the intention of restoring a high level of competition in the economy.

5.33. Trade Policy - Although Indonesia has stressed the importance of non-oil exports for the last several years it has, in fact, followed an import-substitution industrialization strategy since the late 1960s that has effectively undercut the ability to export. In effect, Indonesian import trade policy has largely been dictated by the self-assessed needs for "protection" by large scale public and private sector enterprises. The resultant high levels of effective protection, often obtained and set on an ad hoc basis, have been accomplished by a variety of methods including import quotas, bans, tariffs, and restrictive/sole importer licensing.

5.34. The effective rates of protection that have evolved are both high, sometimes astronomical, and irrational as a structure of rates. Further, there appears to be little tendancy for protection to be withdrawn once extended. Indeed, if anything it is more likely that additional protection will be requested once an industry obtains a foothold. In effect, infant industries in Indonesia rarely appear to have to grow up. The cost of this luxury is borne by the Indonesian consumer who has to pay higher prices, downstream Indonesian producers who are priced out of potential markets (including export markets) by high cost inputs, and Indonesian labor that loses potential employment opportunities both because of lower long-term economic growth and the tendancy of import-substitution industries to be capital and import-intensive.

5.35. The current urgency to promote higher levels of long-term growth in GDP in order to employ the future labor force strongly argues that oil export earnings must be replaced and that the sagging manufacturing sector must be rejuvenated. This would suggest that an outward-looking export-promotion strategy would fit Indonesia's long-term needs better than the present inward-looking import-substitution strategy. The present set of inward-looking trade-industrial policies consign Indonesia

to a lower long-term GDP growth path both because the limited size and growth prospects for domestic markets severely constrain potential growth in manufactures and because foreign exchange revenues are expected to increasingly become the binding constraint on GDP growth. An outward-looking export promotion strategy that is not contrained by domestic market demand tends to be a net earner of foreign exchange, tends to promote resource allocation efficiency and lower costs and prices, and tends to be more labor-intensive.

5.36. To move toward an outward-looking trade-industrial restructuring strategy Indonesia needs both to halt and reverse the current trends toward greater protectionism. The broad steps toward trade policy reform are generally known: (i) refrain from adopting new restrictions, (ii) eliminate quantitative restrictions (bans and quotas) and replace with tariffs, (iii) eliminate restrictive and sole importer licensing, (iv) rationalize the structure of effective protection rates, and (v) begin lowering the levels of effective protection rates. It is obvious, however, that as long as Indonesia holds to its present industrialization strategy, movement on import trade policy reform will be slow at best, given its integral relationship. This suggests that industrial and trade policy reform will have to be viewed as a package.

5.37. Agricultural Policy - Indonesia has much to be proud of in terms of its recent attainment of rice self-sufficiency. Nevertheless, the very achievement of rice self-sufficiency points to the need for greater agricultural diversification, if future growth in rural incomes and employment opportunities is to be maintained. The rapid growth in rice production was essential to rural prosperity and employment during the 1970s and 1980s. Future growth in rice production, however, will increasingly be constrained on the supply side because most potential rice acreage has already been brought under the rice intensification programs. Now would appear, in the face of falling farm gate prices, that growth in rice output will be increasingly constrained by domestic demand and lack of export opportunities as well. These implications are serious both for the general welfare of the rural population and the implications of lessened rural income and employment opportunities for urban-rural migration and pressures on the urban informal labor market.

5.38. The burden of growth in small farmer and agricultural worker incomes must fall increasingly to secondary crops, tree crops and livestock. Although more work remains to ensure that rice self-sufficiency is permanent, it would appear that government agricultural resources, manpower, research, and extension should be increasingly directed to support diversification. We would note, however, that even in the face of successful agricultural diversification (which is far from a certainty given the inherently greater technical difficulties) that the net impact on agricultural labor requirements is still likely to be negative as growth in rice production slows. Given the sheer magnitude of the rural sector (almost 80% of the population) and its direct and indirect dependency on agricultural incomes and employment (55% of direct employment in the economy), it seems clear that every reasonable step that can be taken to stabilize agriculture and the rural sector should be considered as part of an overall employment

strategy. Comment will be made on the potentially complementary rural INPRES public works construction program below.

5.39. Education/Training Policy - Indonesia can also take considerable pride in the rapid extension of its educational system in the 1970s and 1980s. Universal enrollment at the primary level is well on its way to achievement and significant increases in enrollments have been made at both the lower and upper secondary levels. Tertiary education has also expanded.

5.40. Nevertheless, despite the many achievements, questions arise both to the quality and the appropriateness of the Indonesian education and training system. The high and rising levels of open unemployment among lower and secondary level graduates, particularly females, the extraordinarily high salaries commanded by Indonesian consultants in key skill areas, and the perceived need by both domestic and foreign companies to place foreign consultants and experts in key management and skills areas, would all seem to attest to a strong need for reconsidering the appropriateness and quality of Indonesian education and training systems at the secondary and tertiary levels.

5.41. Although there is undoubtedly room for improvement at all levels of the education and training system, it seems particularly important for long-term growth and development that secondary and higher educational system resources focus on eliminating shortages in key skill areas, and managerial and technical professions. In the absence of sophisticated manpower planning, a survey of domestic wage and salary levels and their trends, a review of foreign work permits, and interviews with a cross-section of industry and government managers should point the way to the most immediate bottlenecks. 55/ Given the importance of appropriate human capital formation to long-term growth and development, the potential political sensitivity of large numbers of urban-based educated unemployed, and the potential pressures to absorb ever growing numbers of graduates in the civil service, it is clear that education and training policy must be carefully coordinated with the likely composition of long-term demand for human resources. Education and training policy should be an integral part of any long-term income/employment strategy.

5.42. Family Planning Policy - Indonesia's family planning program is known world-wide and is often cited as a success story. Nevertheless, there is scope for both its improvement and its extension. The second generation problems of decreasing the demand for children are likely to prove far more intractable than the first generation problems focused on supplying unmet demand for family planning services. Greater efforts

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55/ We are aware that the ILO is providing assistance in the area of manpower planning and that the IBRD is undertaking large projects in both higher education and technical training. Since this writer has not had time to review education/training sector policy adequately, some of these remarks, although not the concern, may be misplaced. We would recommend as a separate study the examination of the explicit employment/growth issues raised herein if they not been handled in this work to date.

will be needed in this area. Further, the family planning program to this point has been successfully concentrated in the rural areas of Java and Bali. Although this effort needs to be both continued and strengthened, the need for greater effort in the urban areas of Java and in the outer islands is generally recognized as an equally urgent priority.

5.43. Although changes in family planning practices will not materially affect labor force supply within the next 15 years, we consider enhanced family planning efforts of utmost importance for the even longer-term outlook and of significant consequence on the competing use of consumption and investment resources in the intervening period. Thus, although improvements in family planning will not materially affect labor force supply prior to the year 2000 they can materially affect the competing uses of resources and, hence, indirectly favorably affect the demand for labor. Hence, we see an improved family planning program favorably affecting labor demand over the mid- to long-term and favorably affecting labor supply after a 15 year lag.

5.44. Urban-Rural/Inter-island Spatial Distribution Policies - Population spatial distribution policy should be an integral part of any long-term growth and incomes/employment strategy for Indonesia. Simply speaking, it makes a great deal of difference whether urban areas are growing fast or slowly and whether population continues to concentrate in Java-Bali or is increasingly spread to the outer islands. Although the strict control of population movements is, in varying degree, beyond the ability of any government, it is possible, in principle, to induce population movement in favorable directions through a coordinated set of policies.

5.46. We would argue that Indonesia's spatial distribution strategy should focus both on stabilizing the urban-rural shift in population and on encouraging a better distribution of the inter-island population. Rapid urbanization is probably not affordable, holding the present quality of life constant, and it will tend to undercut the use of investment resources in directly productive endeavors. This in turn will adversely affect employment opportunities over the longer-term. Although no argument is made that urban growth must not occur, it is argued that urban growth should not be subsidized relative to the rural sector. This suggests, for example, that urban public services should consider adopting full cost recovery pricing. It also suggests that improved public services should be provided in rural areas, possibly in part through the rural INPRES public infrastructure construction program.

5.47. The relatively higher per capita income levels and wage rates in most of the outer islands, coupled with their relatively wide-open spaces and rich natural resources, suggests that the inter-island distribution of population, with its extreme concentration in Java, has room for improvement. While we are aware of the sensitive issues involved in large population movements to relatively virgin territories it would not appear that the general welfare of Indonesia will be promoted by discounting this option. Nevertheless, although the principle of inter-island redistribution of population would appear an integral part of an incomes/employment strategy, the method by which it is achieved

should be open to examination. For example, the GOI should probably (in addition to its present transmigration program) consider the feasibility and the costs of alternative strategies for inducing the movement of population such as improved branch banking, selective public infrastructure investment, industrial estates based on the exploitation of the natural resource base, improved labor information systems, etc. This suggests, as one alternative strategy, that the government might focus on promoting natural resource based investment by the private sector in the outer islands as an inducement to population movement. Within the transmigration program itself the government needs to better address the planning, coordination, and implementation issues raised by its critics. The employment/incomes problem cannot be solved by simply shifting the problem to another location, if the opportunities are not truly there.

5.48. We would note that the issues of urban-rural and inter-island spatial distribution are inter-related. To the extent that population is successfully redistributed from Java to the outer islands, we would expect urbanization pressures to be relieved on the island of Java but greater urbanization pressures to occur in the outer islands. Obviously, the nature and location of job opportunities created in the outer islands would dictate the degree of this pressure. The IBRD (1984b) has pointed out, however, the enhanced risks of urbanization both in the outer islands and on the island of Java, should the larger transmigration programs fail.

5.49. Public Sector Employment - Because we have already discussed this subject earlier our comments here will be curtailed. Our major concern is that the government does not adopt a de facto policy of increased public sector (civil service, public sector enterprise, and military) employment as a response to increasing employment pressures, including, but not limited to, the growing ranks of unemployed secondary graduates. Although this solution might be politically agreeable in the short term, we believe that in the longer term it will exacerbate the economic and employment situation. We do see an important role for temporary public sector financed employment, however, in the form of rural INPRES public infrastructure construction projects. We believe the government should consider raising the current level of these activities and should make preparations to use this program as a counter-cylical rural incomes/employment stabilization device. As has been pointed out by Peter McCauley (BIES:1985) rural INPRES programs have a very low import content, provide needed infrastructure, provide direct employment/incomes, help sustain rural aggregate demand, and result largely in wages being consumed in the form of rice. There are also the obvious positive implications of the INPRES programs for urban-rural population stability and pressures on the urban informal labor market.

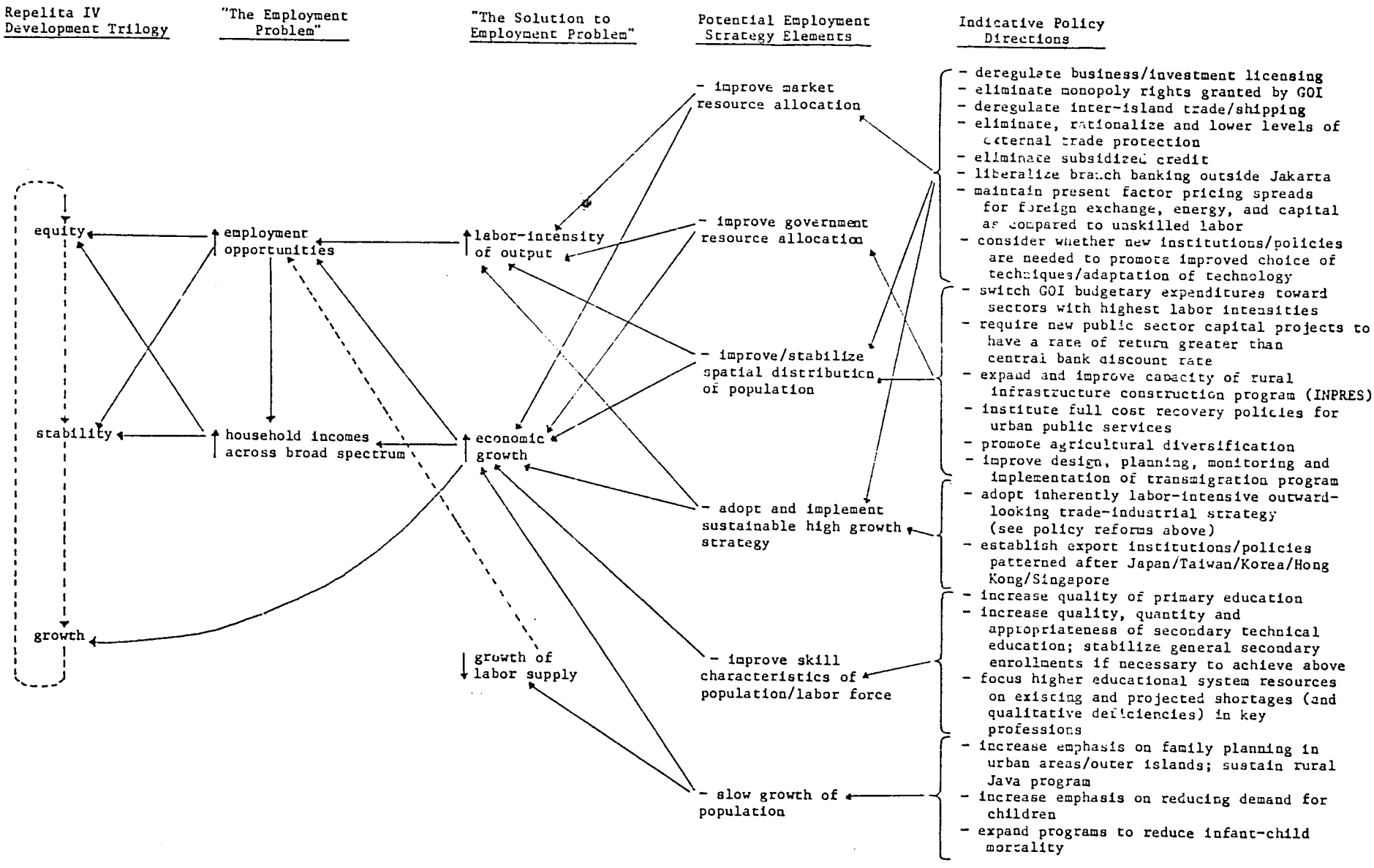
C. Core Strategy Elements and Indicative Policy Directions for Increasing Productivity, Employment and Incomes

5.50. This section of the paper will propose an employment strategy framework formulated around a market oriented long-term productivity approach to the income and employment problem. Most of the ideas that appear here will have already appeared in one form or another earlier in the paper. Nevertheless, we believe it useful to pull the ideas together into one coherent statement.

5.51. Table 83 provides a suggested strategy framework for entertaining possible solutions to the income and employment problem. It is important that this strategy framework be viewed as a menu of possible strategy components and policy actions, however, and not as a hard and fast blueprint of what is absolutely necessary or sufficient. It is intended to be a tool for organizing thoughts and provoking the imagination. It begs to be revised and refined.

5.52. Nevertheless, we believe the essential pieces for formulating an incomes and employment strategy have been presented. First, we believe that the employment problem and, therefore, its solution must be viewed in terms of incomes and employment. Second, we believe there are a limited number of basic approaches to the long-term employment problem (primarily by increasing labor demand through promoting higher rates of economic growth or higher labor intensities of output and by decreasing the growth of labor supply through improved family planning practices). Third, given the foregoing, we feel there are a relatively limited number of core strategy elements that suggest themselves--we have identified six. Fourth, we feel that once we have arrived this far in our thinking that indicative policy directions tend to suggest themselves, assuming some familiarity with the Indonesian economy and its problems. Although we have indicated what we believe to be some of the more important potential policy directions, the list can obviously be expanded. Finally, however, we would note that Table 83 does not list the further refinement of specific potential policy actions that might be suggested by a given policy direction objective. This task is clearly for the specialists. We will turn now to core strategy elements followed by a discussion of indicative policy directions.

Table 83
A Market Oriented Long-Term Productivity Approach to the Income/Employment Problem



5.53. Core Strategy Elements - Six core strategy elements show significant potential for either increasing the labor intensity of output or increasing the rate of economic growth. In some cases a core strategy element will tend to cause increases in both labor intensities and economic growth. Restructuring of economic sectoral growth patterns toward greater average labor intensities is implicit in most of the core strategy elements. The potential strategy elements are: (i) improve market resource allocation, (ii) improve government resource allocation, (iii) improve/stabilize spatial distribution of population, (iv) adopt and implement a sustainable high growth strategy, (v) improve skill characteristics of population/labor force, and (vi) slow the growth of population.

5.54. We have already discussed why we believe there is scope for potentially significant improvement in each of these areas. What we have tried to do with this particular strategy framework formulation is to show there are many ways in which the twin long-term problems of employment and incomes can, in principle, be addressed. Nevertheless, we would hasten to add that although there are many paths to addressing the employment and incomes problem, we firmly believe that the greater the number of core strategy elements brought to bear the stronger the overall incomes/employment strategy. Similarly, the greater the number of indicative policy directions adopted the stronger the impact of a given core strategy element. Finally, the more policy actions brought to bear on a given policy direction, presumably, the better the chances for the policy's success.

5.55. Nevertheless, this does not suggest there are no priorities or that all possibilities have equal weight. What the exact priorities are in the preceding chain of arguments is far beyond what can be examined here. We would note, however, that if we could only choose one core strategy element it would be the adoption and implementation of a sustainable high growth strategy--in the form of an outward-looking export promotion strategy. This would entail both import trade and industrial policy reform which would have an impact on average labor-intensities of output as well as overall economic growth. If we were forced to name a second choice it would be improved market resource allocation followed closely by improved government resource allocation. We would attach relative importance to the other core strategy elements roughly in the order they appear in Table 83, largely because of perceived timing and size of probable impacts within the next 10-15 years. Nevertheless, it is worth repeating that the strongest of all employment/incomes strategies would encompass all of the potential core strategy elements.

5.56. Indicative Policy Directions - Indicative policy directions have been roughly categorized by core strategy elements in Table 83. Nevertheless, some groupings clearly affect more than one core strategy element. For example, certain of the indicative policy directions that would improve market resource allocation will also improve inter-island distribution of population, help to stabilize urban-rural migration, and are necessary components of an outward-looking trade-industrial restructuring strategy. Similarly, certain of the indicative policy directions that would improve government resource allocation could also be expected to help stabilize the urban-rural population distribution.

5.57. No claim is made that the indicative policy directions in Table 83 are exhaustive, entirely appropriate, or politically feasible -- nor that the specific implementation details have been provided. The list is illustrative, although based on present perceptions of what some of the more important policy reform/reformulations might be. Obviously, area specialists would need to both refine and revise indicative policy directions and the specific policy action by which they would be implemented.

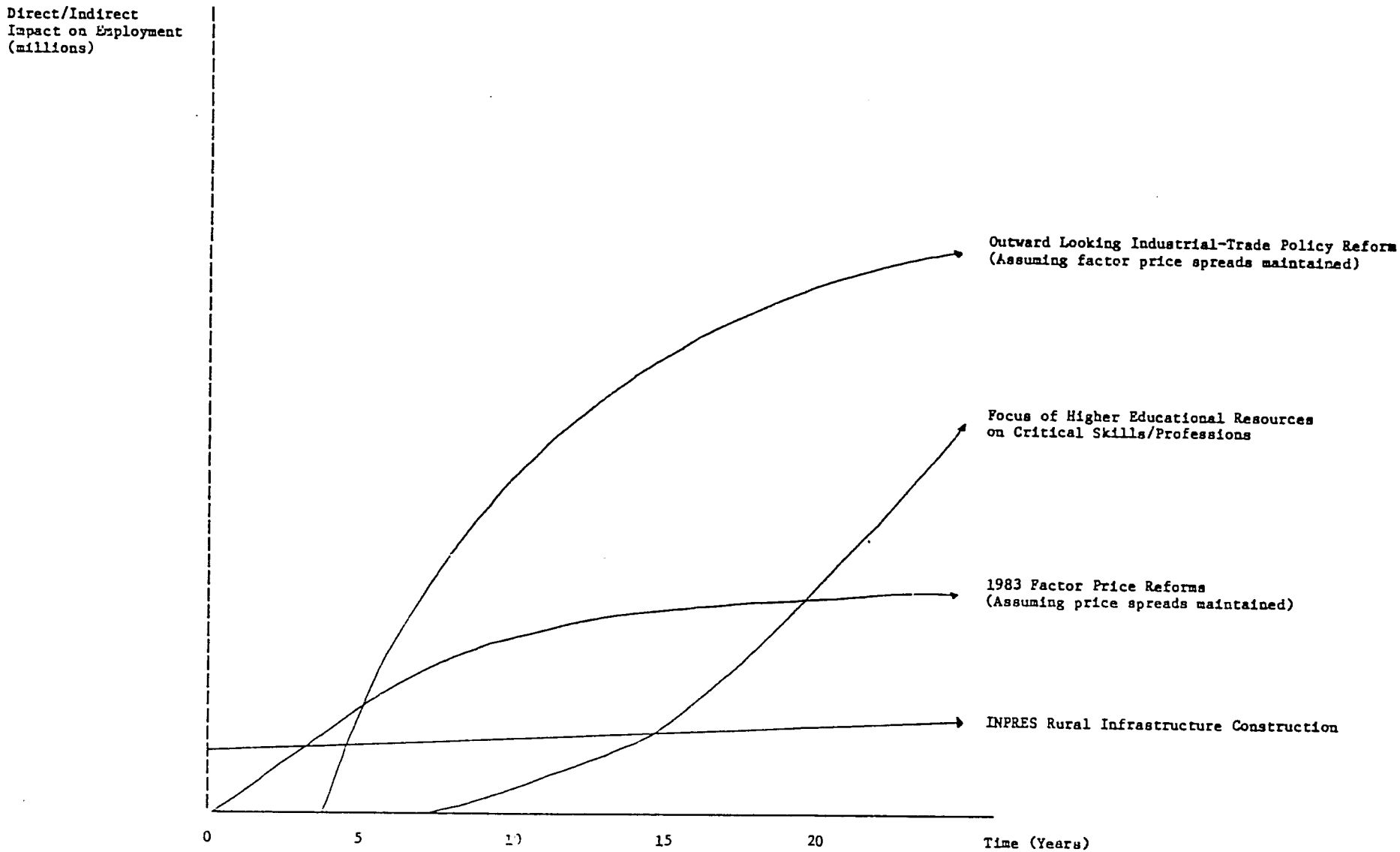
D. Relative Importance and Time Profiles of Potential Policies

5.58. As noted earlier it is obvious that among the ideas presented here, there must implicitly be differences in priorities, size of employment and income impacts, and the timing of impacts. Although detailed examination of these questions is far beyond the scope of this paper, our earlier comments have suggested some sense of broad priorities and rough timing of impacts.

5.59. We would probably lay the greatest stress on matters relating to resource allocation and growth simply because they probably have the potential for the greatest employment and income impact over the next 10-15 years. We would probably also choose first policy directions that tended simply to reverse policies which restrict competition. Obviously, policy directions which require institution building or materially changing a cultural or social preference will take much longer to accomplish than simply changing pricing policies, credit policies, abolishing regulations and licenses, etc. It seems clear that the greater the number of people and institutions required for the implementation of a given policy change, the greater the risk of failure and the greater the likely implementation period.

5.60. For illustrative purposes only, we have set out in Table 84 a highly impressionistic view of the relative size and timing of the direct and indirect employment impact of four indicative policy directions. We do not pretend that either the relative size or the relative timing of employment impacts are reasonable or accurate, only that they represent the writer's impressions. Nevertheless, it would seem useful during the process of formulating a specific employment/incomes strategy policy package to attain some sense of timing and potential size of impacts. It might be useful to help crystalize policy makers' thinking if potential policy directions were categorized by the point and duration of expected impact even if the size of the impact could not be estimated.

Table 84
Impressionistic View of Relative Size, Point and Duration
of Employment Impact for Selected Policy Directions



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STATISTICAL APPENDIX

List of Appendix Tables

TABLE 2.1

Population by Age Group, Urban/Rural Location and Sex, 1980
(000)

Age Group	URBAN			RURAL			ALL-INDONESIA		
	Male	Female	Urban	Male	Female	Rural	Male	Female	Total
0 - 4	2,325.4	2,195.1	4,520.5	8,490.6	8,179.6	16,670.2	10,816.0	10,374.7	21,190.7
5 - 9	2,164.1	2,070.3	4,234.4	8,668.3	8,329.3	16,997.6	10,832.4	10,399.5	21,231.9
10 - 14	1,982.3	1,928.4	3,910.6	7,149.6	6,558.8	13,708.4	9,131.9	8,487.2	17,619.0
15 - 19	1,999.2	2,116.8	4,116.0	5,513.3	5,653.9	11,167.2	7,512.5	7,770.7	15,283.2
20 - 24	1,739.5	1,804.2	3,543.6	4,239.1	5,218.8	9,457.9	5,978.6	7,023.0	13,001.5
25 - 29	1,415.1	1,349.5	2,764.7	4,197.5	4,381.3	8,578.9	5,612.7	5,730.9	11,343.5
30 - 34	955.8	933.1	1,888.9	3,066.8	3,211.4	6,278.2	4,022.6	4,144.5	8,167.1
35 - 39	918.5	913.3	1,831.8	3,272.5	3,445.6	6,718.1	4,190.9	4,358.9	8,549.9
40 - 44	793.2	778.1	1,571.3	2,850.8	2,997.8	5,848.6	3,644.1	3,775.9	7,420.0
45 - 49	589.9	633.3	1,223.2	2,422.9	2,504.1	4,927.0	3,012.8	3,137.5	6,150.2
50 - 54	544.3	540.3	1,084.6	2,173.6	2,152.0	4,325.6	2,717.9	2,692.3	5,410.1
55 - 59	357.1	342.1	699.2	1,363.4	1,327.7	2,691.1	1,720.5	1,669.8	3,390.3
60 - 64	280.6	307.5	588.2	1,278.6	1,361.9	2,640.5	1,559.2	1,669.4	3,228.6
65 - 69	151.6	175.9	327.5	659.5	726.8	1,386.4	811.1	902.8	1,713.9
70 - 74	114.0	152.3	266.3	575.1	689.3	1,264.3	689.1	841.6	1,530.7
75 +	109.3	161.6	270.9	579.1	675.4	1,254.4	688.4	837.0	1,525.4
Not Stated	2.0	2.1	4.0	9.0	7.3	16.4	11.0	9.4	20.4
Total	16,441.9	16,403.9	32,845.8	56,509.8	57,420.9	113,930.7	72,951.7	73,824.8	146,776.5

Source: Population Census 1980, Series S-2, Table 2

TABLE 2.2

Population 10 Years of Age and Over Ever Attending School by Age Group and Educational Attainment, 1980
(000)

URBAN + RURAL — MALE + FEMALE

Age Group	Not Completed/ Not Yet Completed Primary School	EDUCATIONAL ATTAINMENT								
		Primary School	Junior High School		Senior High School		Academy	University	Not Stated	Total
			General	Vocational	General	Vocational				
10 - 14	14,098.3	2,403.2	20.1	3.6	-	-	-	-	1.9	16,527.0
15 - 19	5,420.6	5,696.3	2,001.1	213.5	133.6	105.0	-	-	2.4	13,572.5
20 - 24	4,777.9	3,604.8	1,029.3	221.0	720.1	688.6	33.1	10.7	15.2	11,100.5
25 - 29	4,184.9	3,053.0	708.6	178.2	501.1	564.4	74.2	42.3	1.2	9,308.0
30 - 34	2,848.4	1,985.8	437.4	111.9	335.9	332.3	60.7	49.5	1.2	6,163.1
35 - 39	2,934.2	1,819.9	373.5	113.7	245.7	231.4	47.7	51.9	1.1	5,819.2
40 - 44	2,340.5	1,110.3	253.7	95.0	159.6	186.4	31.7	37.3	1.2	4,215.7
45 - 49	2,012.6	679.9	119.4	49.0	74.9	79.5	16.1	19.2	0.9	3,051.6
50 - 54	1,621.4	501.4	93.1	34.9	44.1	41.2	9.1	9.8	0.7	2,355.7
55 - 59	971.1	301.4	58.0	22.2	23.1	20.3	4.3	3.3	0.4	1,404.1
60 - 64	745.6	189.5	34.9	14.1	12.2	12.0	1.7	1.8	0.6	1,012.6
65 - 69	364.5	94.3	17.5	7.9	6.3	6.7	1.1	1.0	0.6	499.9
70 - 74	248.9	55.1	9.9	4.5	3.1	3.7	0.4	0.6	0.5	326.6
75 +	199.6	41.2	7.7	2.5	3.1	2.3	0.2	0.4	0.6	257.6
Not Stated	4.1	1.7	0.4	0.1	0.3	0.2	-	-	-	6.7
Total	42,772.7	21,537.8	5,164.5	1,072.0	2,263.2	2,274.0	280.2	227.9	28.3	75,620.7

Source: Population Census 1980, Series S-2, Table 9.9

TABLE 2.3

Population 10 Years of Age and Over Currently Attending School by Age and Sex, 1980
(000)

URBAN + RURAL

Age	MALE Total	MALE Attending School	MALE Percent	FEMALE Total	FEMALE Attending School	FEMALE Percent	MALE + FEMALE Total	MALE + FEMALE Attending School	MALE + FEMALE Percent
10	2,203.1	1,966.7	89.3	2,065.5	1,812.5	87.8	4,268.5	3,779.2	88.5
11	1,637.7	1,473.1	89.9	1,535.6	1,358.5	88.5	3,173.3	2,831.6	89.2
12	2,090.5	1,745.4	83.5	1,903.9	1,521.9	79.9	3,994.4	3,267.3	81.8
13	1,629.4	1,250.2	76.7	1,523.1	1,068.1	70.1	3,152.5	2,318.2	73.5
14	1,571.2	1,041.3	66.3	1,459.1	820.7	56.3	3,030.3	1,862.0	61.4
15	1,848.1	983.9	53.2	1,663.3	693.2	41.7	3,511.4	1,677.1	47.8
16	1,455.6	700.7	48.1	1,420.3	493.9	34.8	2,876.0	1,194.6	41.5
17	1,513.2	585.6	38.7	1,571.5	382.3	24.3	3,084.8	967.8	31.4
18	1,616.7	479.8	29.7	1,827.7	287.3	15.7	3,444.4	767.1	22.3
19 - 24	7,057.4	880.9	12.5	8,310.8	441.4	5.3	15,368.2	1,322.3	8.6
25 +	28,669.3	234.3	0.8	29,760.4	109.0	0.4	58,429.7	343.3	0.6
Not Stated	10.8	0.8	7.4	9.3	0.6	6.9	20.1	1.4	7.2
Total	51,303.1	11,342.6	22.1	53,050.5	8,989.4	16.9	104,353.6	20,332.0	19.5

Source: Population Census 1980, Series S-2, Table 19.3

TABLE 2.4

Population 10 Years of Age and Over by Age Group and Type of Activity, 1980
(000)

URBAN + RURAL — MALE + FEMALE

	ECONOMICALLY ACTIVE					NOT ECONOMICALLY ACTIVE						
		LOOKING FOR WORK										
Age Group	Working*	Ever Worked	Never Worked	Total	Economically Active	Attending School	Housekeeping	Others	Total	Total Ages 10+	% of Working to Economically Active	% of Economically Active to Population
10 - 14	1,925.9	17.1	43.5	60.6	1,986.5	13,283.9	571.5	1,777.1	15,632.5	17,619.0	96.9	11.3
15 - 19	5,789.9	70.8	150.8	221.6	6,011.5	4,653.7	2,444.8	2,173.2	9,271.7	15,283.2	96.3	39.3
20 - 24	6,914.3	81.9	152.0	233.9	7,148.2	721.6	3,950.7	1,181.1	5,853.4	13,001.5	96.7	55.0
25 - 29	7,143.9	61.4	46.3	107.7	7,251.7	92.4	3,460.7	538.7	4,091.9	11,343.5	98.5	63.9
30 - 34	5,403.1	37.2	16.0	53.2	5,461.4	12.2	2,413.4	280.2	2,705.7	8,167.1	99.0	66.9
35 - 39	5,819.0	36.6	12.3	48.9	5,867.8	3.3	2,406.8	271.9	2,682.0	8,549.9	99.2	68.6
40 - 44	5,159.9	31.5	8.8	40.3	5,200.1	2.9	1,924.4	292.6	2,219.8	7,420.0	99.2	70.1
45 - 49	4,269.6	26.9	5.9	32.8	4,302.4	0.2	1,528.8	318.9	1,847.9	6,150.2	99.2	69.9
50 - 54	3,612.5	22.8	6.0	28.8	3,641.3	0.2	1,249.4	519.2	1,768.9	5,410.1	99.2	67.3
55 - 59	2,120.9	13.1	3.6	16.7	2,137.6	-	765.5	487.2	1,252.7	3,390.3	99.2	63.1
60 - 64	1,734.2	9.6	2.8	12.4	1,746.5	-	665.8	816.3	1,482.1	3,228.6	99.3	54.1
65 +	1,648.8	7.4	3.8	11.1	1,659.9	-	791.4	2,318.6	3,110.0	4,769.9	99.3	34.8
Not Stated	6.1	0.1	0.1	0.2	6.3	0.6	2.2	10.0	12.8	19.1	97.1	33.1
Total	51,553.1	416.2	452.0	868.1	52,421.2	18,770.9	22,175.5	10,984.9	51,931.3	104,352.6	98.3	50.2

* Worked at least one hour in the preceding week or temporarily not working.

Source: Population Census 1980, Series S-2, Table 39.9

TABLE 2.5

Population 10 Years of Age and Over by Province and Type of Activity, 1980
(000)

URBAN + RURAL

MALE + FEMALE

Province	ECONOMICALLY ACTIVE					NOT ECONOMICALLY ACTIVE					% of Working to Economically Active	% of Economically Active to Population
	Working[a]	LOOKING FOR WORK: Ever Worked	LOOKING FOR WORK: Never Worked	LOOKING FOR WORK: Total	Economically Active	Attending School	Housekeeping	Others	Total	Total		
Daerah Istimewa Aceh	832.5	6.6	7.3	13.9	846.4	381.4	388.0	190.1	959.6	1,806.0	98.4	46.9
Sumatera Utara	2,947.2	15.9	22.8	38.7	2,985.9	1,289.4	884.9	528.2	2,702.4	5,688.3	98.7	52.5
Sumatera Barat	1,103.8	5.1	7.0	12.1	1,115.9	529.0	494.9	251.5	1,265.4	2,381.3	98.9	46.9
Riau	686.9	5.5	5.6	12.1	699.0	282.0	355.4	148.7	786.1	1,485.1	98.3	47.1
Jambi	496.2	4.2	2.4	6.6	502.9	172.2	217.3	90.1	479.7	982.5	98.7	51.2
Sumatera Selatan	1,623.3	7.9	11.6	19.5	1,642.7	608.1	627.4	287.2	1,522.7	3,165.5	98.8	51.9
Bengkulu	278.9	2.4	1.6	4.0	282.9	97.8	85.0	48.1	230.9	513.8	98.6	55.1
Lampung	1,535.9	7.0	6.1	13.2	1,549.0	553.0	729.2	253.7	1,535.9	3,084.9	99.2	50.2
DKI Jakarta	1,927.6	16.4	60.5	76.8	2,004.5	1,115.2	1,105.0	459.5	2,679.7	4,684.2	96.2	42.8
Jawa Barat	8,500.9	90.6	86.6	177.2	8,678.2	3,250.1	4,847.0	2,337.4	10,434.5	19,112.7	98.0	45.4
Jawa Tengah	9,966.2	70.5	64.6	135.0	10,101.2	3,055.0	3,459.8	1,776.4	8,291.2	18,392.4	98.7	54.9
D.I. Jogyakarta	1,234.3	4.1	9.0	13.1	1,247.4	461.1	260.2	150.8	872.0	2,119.5	99.0	58.9
Jawa Timur	11,396.7	80.2	82.3	162.4	11,559.2	3,421.8	4,651.7	2,187.7	10,261.2	21,820.4	98.6	53.0

Continuation of Table 2.5

Province	ECONOMICALLY ACTIVE: Working*	LOOKING FOR WORK: Ever Worked	LOOKING FOR WORK: Never Worked	LOOKING FOR WORK: Total	Economically Active	NOT ECONOMICALLY ACTIVE: Attending School	Housekeeping	Others	Total	Total	% of Working to Economically Active	% of Economically Active to Population
Bali	950.4	8.6	8.0	16.7	967.1	322.7	335.0	178.3	836.1	1,803.2	98.3	53.6
Nusa Tenggara Barat	892.4	12.6	6.7	19.2	911.7	273.1	431.5	202.7	907.3	1,819.0	97.9	50.1
Nusa Tenggara Timur	1,018.2	3.8	2.4	6.2	1,024.4	392.7	305.3	210.1	908.1	1,932.5	99.4	53.0
Kalimantan Barat	982.5	4.7	5.4	10.0	992.5	282.7	279.0	162.1	723.8	1,716.3	99.0	57.8
Kalimantan Tengah	365.0	1.5	1.0	2.5	367.5	116.3	98.9	53.4	268.6	636.1	99.3	57.8
Kalimantan Selatan	731.0	13.2	7.7	21.0	752.0	261.7	283.9	155.3	700.9	1,452.8	97.2	51.8
Kalimantan Timur	372.6	2.8	3.3	6.1	378.6	156.6	206.7	105.6	468.9	847.5	98.4	44.7
Sulawesi Utara	660.3	10.4	8.9	19.3	679.6	325.5	317.3	179.5	822.2	1,501.8	97.2	45.3
Sulawesi Tengah	416.9	6.7	7.6	14.3	431.2	173.3	180.0	87.3	440.7	871.9	96.7	49.5
Sulawesi Selatan	1,601.9	26.8	24.0	50.8	1,652.7	811.7	1,151.8	582.1	2,545.6	4,198.3	96.9	39.4
Sulawesi Tenggara	273.5	2.5	2.1	4.7	278.2	122.6	141.[illegible]	77.6	341.5	619.7	98.3	44.9
Maluku	399.6	3.1	2.9	6.0	405.6	207.4	190.5	158.0	555.9	961.5	98.5	42.2
Irian Jaya	358.3	3.1	3.6	6.6	364.9	118.8	148.4	123.4	390.5	755.5	98.2	48.3
Total	51,553.1	416.2	452.0	868.1	52,421.2	18,770.9	22,175.5	10,984.9	51,931.3	104,352.6	98.3	50.2

* Worked at least one hour in the preceding week or temporarily not working.

Source: Population Census, Series S-2, Table 40.9

TABLE 2.6

Population 10 Years of Age and Over by Educational Attainment and Type of Activity, 1980
(000)

URBAN + RURAL

MALE + FEMALE

Educational Attainment	ECONOMICALLY ACTIVE						NOT ECON. ACTIVE				
	WORKING		LOOKING FOR WORK			Total Economically Active	Attending School	Housekeeping	Others	Total	Total
	Not Looking For Work	Looking For Work	Ever Worked	Never Worked	Total						
1. Never Attended School	14,040.3	1,216.4	139.5	55.8	195.3	15,452.0	-	8,457.4	4,822.5	13,279.9	28,731.9
2. Not Completed/Not Yet Completed Primary School	17,929.6	1,470.2	148.2	116.3	264.5	19,664.2	12,210.6	7,574.9	3,323.1	23,108.5	42,772.7
3. Primary School	10,203.9	740.1	84.5	114.6	199.1	11,143.0	4,011.5	4,485.8	1,897.6	10,394.8	21,537.8
4. Junior High School (General)	1,935.9	108.4	17.7	45.6	63.3	2,107.7	1,787.8	859.1	409.9	3,056.8	5,164.5
5. Junior High School (Vocational)	556.1	31.1	4.5	9.2	13.7	600.9	181.2	200.0	89.8	471.1	1,072.0
6. Senior High School (General)	1,189.0	50.4	9.4	47.0	56.4	1,295.8	433.3	320.3	213.8	967.4	2,263.2
7. Senior High School (Vocational)	1,582.2	71.9	11.1	56.9	68.0	1,722.2	115.6	239.6	196.7	551.8	2,274.0
8. Academy	215.5	5.8	0.8	3.8	4.6	225.9	17.2	20.5	16.6	54.3	280.2
9. University	191.6	4.5	0.4	2.6	3.0	199.2	4.0	13.6	11.2	28.8	227.9
10. Not Stated	9.3	0.9	0.1	0.1	0.2	10.4	9.8	4.4	3.6	17.9	28.3
Total	47,853.4	3,699.7	416.2	452.0	868.1	52,421.2	18,770.9	22,175.5	10,984.9	51,931.3	104,352.6

Source: Population Census 1980, Series S-2, Table 43.9

TABLE 2.7

Population 10 Years of Age and Over Who Worked During the Previous Week by Educational Attainment and Main Industry, 1980
(000)

URBAN + RURAL — MALE + FEMALE

Educational Attainment	MAIN INDUSTRY											
	Agriculture	Mining	Manufacturing	Public Utilities	Constr.	Wholesale Retail Trade	Transport. Comm.	Financial Services	Public Services	Other	Not Stated	Total
1. Never Attended School	10,488.5	92.1	1,217.5	4.4	259.4	1,935.7	150.1	13.7	1,009.3	3.2	82.7	15,256.7
2. Not Completed/Not Yet Completed Primary School	12,139.0	144.5	1,735.1	10.3	690.4	2,338.0	493.0	41.3	1,686.5	6.5	115.1	19,399.7
3. Primary School	5,345.5	76.1	1,138.9	14.9	492.9	1,650.4	499.2	57.9	1,596.2	4.6	67.5	10,943.9
4. Junior High School (General)	487.7	20.6	237.3	7.1	76.2	372.9	149.3	41.3	634.8	2.4	14.5	2,044.3
5. Junior High School (Vocational)	116.7	7.7	66.1	4.5	34.0	69.4	38.0	9.8	236.2	0.6	4.2	587.2
6. Senior High School (General)	119.2	20.1	129.6	6.9	42.0	190.3	71.0	70.8	576.4	2.3	10.9	1,239.4
7. Senior High School (Vocational)	119.8	19.2	128.7	14.5	51.3	98.4	54.5	44.8	1,110.2	1.3	11.6	1,654.1
8. Academy	7.3	3.7	15.2	1.5	5.0	14.0	10.5	12.2	149.8	0.4	1.8	221.4
9. University	6.3	3.1	11.1	1.6	5.8	9.2	2.5	10.4	144.1	0.3	1.7	196.2
10. Not Stated	4.1	0.2	0.6	0.3	0.2	0.6	0.3	0.1	1.0	-	2.8	10.2
Total	28,834.0	387.3	4,680.1	66.1	1,657.1	6,679.0	1,468.4	302.3	7,144.5	21.6	312.7	51,553.1

Source: Population Census 1980, Series S-2, Table 51.3

TABLE 2.8

Population 10 Years of Age and Over Who Worked During the Previous Week
by Educational Attainment and Type of Main Occupation, 1980
(000)

URBAN + RURAL

MALE + FEMALE

Educational Attainment	TYPE OF MAIN OCCUPATION									
	Professional and Technical	Managers and Administrators	Clerical	Sales Workers	Service Workers	Agricultural	Production, and Transport Equipment Operators	Others	Not Stated	Total
1. Never Attended School	39.6	2.3	30.1	1,932.3	601.8	10,503.8	2,035.8	8.2	102.9	15,256.7
2. Not Completed/Not Yet Completed Primary School	73.9	4.7	183.6	2,329.6	778.0	12,117.6	3,735.0	28.0	149.4	19,399.7
3. Primary School	116.7	5.5	347.4	1,646.0	561.4	5,314.0	2,755.7	109.7	87.6	10,943.9
4. Junior High School (General)	101.3	4.7	265.5	367.8	126.0	474.6	574.6	109.7	20.2	2,044.3
5. Junior High School (Vocational)	85.0	0.9	69.9	68.6	28.2	114.4	186.8	27.0	6.5	587.2
6. Senior High School (General)	159.4	13.1	434.0	177.4	64.8	111.5	215.3	49.3	14.8	1,239.4
7. Senior High School (Vocational)	774.1	5.2	308.9	88.6	44.7	115.1	268.5	33.2	16.0	1,654.1
8. Academy	76.2	6.0	87.4	10.1	5.7	6.7	16.7	10.0	2.7	221.4
9. University	90.5	10.6	64.6	6.9	2.8	5.6	9.1	3.6	2.5	196.2
10. Not Stated	0.6	0.1	0.2	0.7	0.3	3.8	1.5	—	2.9	10.2
Total	1,517.2	52.9	1,791.4	6,627.9	2,213.6	28,767.0	9,798.9	378.7	405.4	51,553.1

Source: Population Census 1980, Series S-2, Table 52.9

TABLE 2.9

Population 10 Years of Age and Over Who Worked During the Previous Week
by Educational Attainment and Employment Status, 1980
(000)

URBAN + RURAL — MALE + FEMALE

Educational Attainment	EMPLOYMENT STATUS						
	Self Employed	Self Employed Assisted by Family Member/ Temporary Help	Employer	Employee	Family	Not Stated	Total
1. Never Attended School	4,370.8	4,719.0	170.2	3,022.8	2,891.7	82.3	15,256.7
2. Not Completed/Not Yet Completed Primary School	5,143.7	5,445.1	319.2	4,527.4	3,862.5	101.9	19,399.7
3. Primary School	2,786.8	2,669.2	236.9	3,135.2	2,050.8	65.1	10,943.9
4. Junior High School (General)	416.8	331.6	64.6	983.0	235.0	13.4	2,044.3
5. Junior High School (Vocational)	113.5	85.1	16.2	323.8	44.3	4.3	587.2
6. Senior High School (General)	155.7	105.6	42.1	869.2	58.1	8.7	1,239.4
7. Senior High School (Vocational)	148.0	84.6	38.6	1,322.3	49.0	11.6	1,654.1
8. Academy	12.4	6.8	5.4	192.4	2.8	1.7	221.4
9. University	12.0	5.7	6.0	168.8	2.0	1.7	196.2
10. Not Stated	1.7	3.2	0.2	1.9	1.9	1.4	10.2
Total	13,161.2	13,455.9	899.4	14,546.7	9,198.0	292.1	51,553.1

Source: Population Census 1980, Series S-2, Table 53.9

TABLE 2.10

Population 10 Years of Age and Over Who Worked During the Previous Week by Employment Status and Main Industry, 1980
(000)

URBAN + RURAL — MALE + FEMALE

Employment Status	MAIN INDUSTRY											
	Agriculture	Mining	Manufacturing	Public Utilities	Constr.	Wholesale/ Retail Trade	Transport. Commun.	Financial Services	Public Services	Other	Not Stated	Total
Self employed	6,668.4	115.5	830.9	4.1	260.6	3,325.4	507.7	11.2	1,375.0	3.1	59.4	13,161.2
Self employed assisted by family member/ temporary help	9,740.7	54.1	893.5	3.1	222.3	1,914.4	108.5	7.7	437.9	2.3	71.2	13,455.9
Employer	241.9	8.[illegible]	168.9	2.4	81.7	102.8	63.1	13.2	207.0	0.9	8.7	899.4
Employee	4,716.7	175.6	2,228.2	54.8	1,042.7	552.8	749.8	266.2	4,671.5	13.9	74.6	14,546.7
Family worker	7,360.0	24.7	534.4	0.7	40.9	749.3	30.9	2.2	401.1	0.9	52.9	9,198.0
Not Stated	106.4	8.6	24.2	0.9	9.0	34.2	8.3	1.8	52.1	0.5	46.0	292.1
Total	28,834.0	387.3	4,680.1	66.1	1,657.1	6,679.0	1,468.4	302.3	7,144.5	21.6	312.7	51,553.1

Source: Population Census 1980, Series S-2, Table 48.9

TABLE 2.11

Population 10 Years of Age and Over Who Worked During the Previous Week
by Main Industry and Type of Main Occupation, 1980
(000)

URBAN + RURAL — MALE + FEMALE

Main Industry	TYPE OF MAIN OCCUPATION									
	Professional and Technical	Managers and Administrators	Clerical	Sales Workers	Service Workers	Agricultural	Production, and Transport Equipment Operators	Others	Not Stated	Total
Agriculture, Forestry, Hunting, Fishery	20.7	3.9	28.5	31.6	56.9	28,410.1	208.9	2.3	71.1	28,834.0
Mining and Quarrying	10.7	1.4	21.5	2.1	16.2	12.7	306.3	0.7	15.7	387.3
Manufacturing Industry	45.5	12.0	98.3	58.7	105.3	62.6	4,262.5	11.1	24.0	4,680.1
Electricity, Gas and Water	5.1	0.7	10.0	0.5	3.2	4.4	36.9	0.5	4.6	66.1
Construction	10.9	4.7	20.6	8.5	16.0	2.8	1,585.4	0.6	7.6	1,657.1
Wholesale and Retail Trade, Restaurant	7.9	5.9	53.0	6,335.1	93.7	27.8	122.6	1.5	31.5	6,679.0
Transportation Storage, Communication	20.9	3.0	155.6	4.7	28.4	8.9	1,235.3	2.2	9.3	1,468.4
Finance, Insurance, Real Estate and Business Services	12.1	6.6	120.6	21.6	59.6	6.1	71.4	2.5	2.0	302.3
Public Services	1,376.5	13.3	1,274.0	147.9	1,821.2	194.7	1,926.4	343.1	47.5	7,144.5
Others	0.6	0.3	3.1	0.3	1.9	0.8	3.8	10.1	0.8	21.6
Not Stated	6.4	1.2	6.1	17.0	11.0	36.0	39.5	4.2	191.2	312.7
Total	1,517.2	52.9	1,791.4	6,627.9	2,213.6	28,767.0	9,798.9	378.7	405.4	51,553.1

Source: Population Census 1980, Series S-2, Table 47.9

TABLE 2.12

Population 10 Years of Age and Over Who Worked During the Previous Week
by Employment Status and Type of Main Occupation, 1980
(000)

URBAN + RURAL — MALE + FEMALE

Employment Status	TYPE OF MAIN OCCUPATION									
	Professional and Technical	Managers and Administrators	Clerical	Sales Workers	Service Workers	Agricultural	Production and Transport Equipment Operators	Others	Not Stated	Total
Self employed	147.8	4.2	74.3	3,349.5	367.4	6,653.6	2,449.3	18.0	97.1	13,161.2
Self employed assisted by family member/temporary help	36.7	5.5	28.9	1,906.5	142.2	9,711.5	1,523.9	5.0	95.7	13,455.9
Employer	31.0	8.4	38.3	102.0	80.0	240.9	380.3	7.5	11.0	899.4
Employee	1,273.7	32.4	1,629.5	494.9	1,319.1	4,697.1	4,655.0	342.2	102.6	14,546.7
Family worker	15.6	0.6	9.3	739.1	285.5	7,355.4	733.1	2.6	56.8	9,198.0
Not Stated	12.5	1.8	11.0	35.8	19.5	108.5	57.4	3.4	42.2	292.1
Total	1,517.2	52.9	1,791.4	6,627.9	2,213.6	28,767.0	9,798.9	378.7	405.4	51,553.1

Source: Population Census 1980, Series S-2, Table 49.9

Table 2.13

Table B.2: LABOR FORCE PARTICIPATION RATES BY AGE, SEX AND LOCATION, INDONESIA, 1961, 1971, 1976-80

Age group	Census 1961	Census (C) 1971 IV	Census (D) 1971 IV	SUPAS 1976 I	SAKERNAS 1976 IV	SAKERNAS 1977 I	SAKERNAS 1977 II	SAKERNAS 1977 III	SAKERNAS 1977 IV	SAKERNAS 1978 I	SAKERNAS 1978 II	SAKERNAS 1978 III	SAKERNAS 1978 IV	SAKERNAS 1979 I	SAKERNAS 1979 IV	CENSUS 1980 IV
			Rural - Males													
10-14	25.5	20.4	20.57	30.1	19.5	20.0	15.1	[illegible].9	16.4	21.6	22.1	22.7	18.0	20.8	16.7	15.2
15-19	71.6	53.3	58.20	73.4	65.2	68.3	64.4	[illegible].1	65.4	64.3	66.8	61.4?	61.5	69.6	65.1	54.8
20-24	89.2	79.5	[illegible].00	91.4	91.0	91.7	88.6	92.6	91.1	90.8	90.8	91.1	90.3	93.7	92.9	84.2
25-34	94.6	91.3	93.[illegible]9	(98.6	98.5	98.3	98.2	98.9	98.1	98.5	98.6	97.9	97.5	98.1	98.1	93.9
35-44	96.9	93.3	94.48	(	98.6	99.2	99.3	98.7	98.7	99.3	98.4	98.5	99.1	98.9	99.1	95.2
45-54	96.0	90.8	92.42	97.9	96.6	96.7	95.7	97.4	96.9	97.5	98.6	98.3	96.5	97.4	96.2	92.7
55-64	91.7	84.0	84.87	93.4	88.6	87.5	89.4	87.1	86.8	90.1	92.7	92.4	87.7	87.1	89.5	84.5
65+	75.2	63.9	65.26	73.2	64.3	59.0	65.0	65.5	58.0	75.4	65.2	65.1	73.4	66.3	64.5	57.6
Total	81.5	70.4	72.32	79.8	76.3	76.0	74.2	75.8	74.5	77.6	77.8	77.7	75.3	77.6	76.5	70.6
			Rural - Females													
10-14	17.5	15.9	15.28	24.0	12.5	11.3	8.6	10.5	9.4	15.0	14.9	12.1	9.3	11.9	11.7	10.9
15-19	32.0	31.6	33.84	51.1	37.6	41.2	38.7	38.8	35.0	41.1	43.0	35.7	38.4	37.5	39.1	34.4
20-24	27.8	34.0	35.79	53.5	40.0	40.0	37.2	39.9	36.3	42.3	44.7	39.9	35.2	40.1	40.5	36.0
25-34	27.6	37.2	38.83	(59.7	45.1	46.5	41.6	44.6	43.1	53.4	51.7	45.4	47.1	48.8	44.6	39.7
35-44	33.8	43.1	44.66	(	52.4	55.8	51.2	52.4	50.3	57.6	61.3	53.1	55.9	52.6	51.7	46.2
45-54	40.7	45.5	45.93	66.2	53.3	52.9	51.4	50.8	43.6	61.0	62.9	55.5	55.4	52.9	51.0	47.8
55-64	41.0	37.9	39.06	54.8	42.3	43.0	37.2	41.6	39.8	46.3	48.5	50.3	51.2	48.4	42.0	38.6
65+	29.6	24.4	25.54	33.9	21.5	20.2	22.2	20.8	23.7	28.9	33.4	27.2	25.3	20.9	20.7	20.0
Total	30.4	34.1	35.26	51.0	39.5	40.6	37.1	38.8	37.0	44.2	45.6	40.1	40.3	40.3	39.1	34.6
			Urban - Males													
10-14	7.6	8.6	7.35	7.9	4.8	4.7	3.8	5.5	3.6	7.9	4.8	3.9	4.1	5.4	3.8	3.3
15-19	45.8	32.9	32.97	40.3	34.6	35.4	34.3	33.9	32.5	33.4	33.7	35.8	32.4	36.3	30.4	27.2
20-24	79.4	67.0	67.07	77.8	75.2	75.7	74.1	73.1	71.0	78.0	81.7	73.9	71.4	78.0	70.4	67.5
25-34	93.1	91.3	91.78	(96.4	95.1	94.2	95.2	94.6	94.6	95.6	95.8	95.3	96.4	96.0	94.3	91.9
35-44	96.1	94.1	94.71	(	98.2	98.5	98.1	97.9	98.0	98.0	97.0	97.9	98.6	98.7	98.0	95.6
45-54	93.3	86.5	87.50	92.4	89.7	89.0	89.7	90.5	87.3	92.5	91.6	92.2	86.2	91.5	93.2	88.7
55-64	74.8	65.5	66.73	72.9	67.9	65.5	65.7	67.8	68.3	71.9	67.7	72.1	71.3	71.4	65.4	67.4
65+	53.3	41.0	43.50	47.2	41.2	45.7	38.1	45.4	41.3	48.5	48.1	38.3	42.7	33.8	36.1	38.6
Total	70.6	61.2	61.35	65.5	63.2	62.7	62.6	62.7	61.4	65.5	64.8	62.9	62.9	64.4	61.9	60.0
			Urban - Females													
10-14	6.8	7.7	6.93	7.5	4.9	3.9	3.4	4.3	4.2	6.1	5.3	6.6	3.6	5.1	3.3	4.7
15-19	24.2	17.4	19.21	24.4	22.6	23.0	21.1	20.1	21.2	24.6	27.0	22.0	26.4	22.7	19.7	22.3
20-24	25.4	23.6	24.25	30.2	28.7	28.9	25.7	28.9	30.2	32.1	28.4	31.0	30.0	29.5	25.6	27.0
25-34	25.3	26.5	27.72	(33.4	28.7	29.9	29.3	26.8	29.6	32.5	31.5	31.4	32.0	34.5	28.2	28.4
35-44	30.1	32.3	33.06	(	28.7	33.3	35.3	35.8	32.8	43.5	45.5	42.7	43.5	39.5	34.1	33.4
45-54	33.3	32.0	33.72	38.4	36.9	36.4	36.9	38.9	34.2	44.2	40.8	37.0	44.5	37.4	37.1	36.2
55-64	27.0	27.1	20.22	30.5	29.3	31.2	26.6	27.5	30.3	27.3	27.6	33.1	26.5	26.0	30.4	25.9
65+	16.8	14.5	16.52	15.2	12.3	11.5	14.8	11.0	15.1	21.3	18.4	17.1	11.4	12.9	15.5	13.4
Total	23.9	22.4	22.88	26.5	25.1	24.8	24.0	24.2	24.4	28.6	28.6	27.5	28.1	26.8	23.8	24.0

Source: Population Census 1961, pp.25-26; Population Census 1971, Series D. p.168-172; SUPAS 1976, pp.19-20; SAKERNAS IV 1976, pp.1-5; SAKERNAS 1977-78, T.1, SAKERNAS 1979; Census 1980 Results of the Subsample, Table 31.

Source: IBRD (1983a)

Table 2.14

Table B.1: ESTIMATES OF POPULATION, POPULATION OF WORKING AGE, LABOR FORCE AND EMPLOYMENT, BY SEX, LOCATION AND REGION 1961, 1971, 1980 ('000)

		1961			1971-C			1971-D			1980		
		Urban	Rural	Urban+ Rural	Urban	Rural	Urban+ Rural	Urban	Rural	Urban+ Rural	Urban	Rural	Urban+ Rural
All Indonesia													
Male	Population	7,182	40,311	47,493	10,383	47,896	58,279	10,201	48,137	58,339	16,442	56,510	72,951
	Population 10+	4,971	26,377	31,348	7,246	31,802	39,049	7,112	32,095	39,208	11,964	39,389	51,353
	Labor force	3,509	21,500	25,009	4,435	22,396	26,832	4,363	23,212	27,575	7,177	27,823	34,999
	Employment	3,248	20,557	23,806	4,217	21,967	26,184	3,894	21,622	25,516	6,967	27,519	34,486
Female	Population	7,178	41,649	48,827	10,382	49,798	60,181	10,264	49,765	60,029	16,404	57,420	73,825
	Population 10+	5,010	27,596	32,606	7,372	34,006	41,378	7,272	34,027	41,299	12,131	40,976	53,108
	Labor force	1,191	8,379	9,569	1,655	11,613	13,268	1,688	11,998	13,686	2,915	14,196	17,110
	Employment	1,050	7,853	8,903	1,580	11,446	13,026	1,400	10,712	12,112	2,812	13,893	16,705
Both sexes	Population	14,359	81,960	97,019	20,765	97,695	118,460	20,465	97,902	118,368	32,846	113,931	146,777
	Population 10+	9,981	53,972	63,953	14,618	65,809	80,427	14,384	66,122	80,507	24,095	80,366	104,460
	Labor force	4,699	29,879	34,578	6,091	34,009	40,100	6,051	35,210	41,261	10,092	42,018	52,110
	Employment	4,298	28,411	32,709	5,796	33,414	39,210	5,293	32,334	37,628	9,780	41,411	51,191
Java													
Male	Population	4,863	25,938	30,801	6,764	30,407	37,172	6,751	30,436	37,187	11,382	33,629	45,010
	Population 10+	3,399	17,093	20,492	4,749	20,417	25,168	4,737	20,476	25,213	8,311	23,949	32,260
	Labor force	2,425	13,976	16,401	2,934	14,507	17,441				5,062	17,202	22,263
	Employment	2,251	13,324	15,575	2,781	14,229	17,010				4,912	16,998	21,910
Female	Population	4,944	27,248	32,192	6,964	31,967	38,931	6,924	31,918	38,842	11,545	34,662	46,207
	Population 10+	3,503	18,270	21,773	5,031	22,116	27,147	4,969	22,086	27,055	8,626	25,245	33,871
	Labor force	955	5,371	6,325	1,253	7,668	8,921				2,354	8,846	11,200
	Employment	847	5,033	5,881	1,202	7,546	8,747				2,278	8,652	10,931
Both sexes	Population	9,807	53,186	62,993	13,728	62,375	76,102	13,675	62,354	76,029	22,927	68,291	91,217
	Population 10+	6,902	35,363	42,265	9,781	42,534	52,314	9,706	42,562	52,268	16,938	49,194	66,131
	Labor force	3,380	19,347	22,727	4,187	22,175	26,362	4,218	22,715	26,933	7,416	26,047	33,463
	Employment	3,098	18,358	21,456	3,983	21,775	25,757	3,705	20,984	24,689	7,190	25,650	32,840

Notes and Sources:

1971: Population Census 1971. Series C gives the preliminary results from the advanced tabulations.

1980: Population Census 1980. Series No. 1. Results of the sub-sample of the 1980 Population Census.

Source: IBRD (1983a)

TABLE 2.15

Indonesia: Labor Force Estimates by Sex and Location, 1971, 1976-83
(000)

	Census 1971 (D)	Sakernas 1976	Sakernas 1977	Sakernas 1978	Sakernas 1979	Census 1980	Susenas 1981	Susenas 1982
Urban								
Male	4,363.5	5,217.9	5,341.7	5,588.3		7,066.6		
Female	1,687.9	2,147.1	2,172.8	2,582.9		2,934.6		
Total	6,051.4	7,365.0	7,514.5	8,171.2		10,001.2		11,362.1
Rural								
Male	23,211.6	26,651.1	27,504.9	28,295.7		28,032.2		
Female	11,998.2	14,414.9	14,423.9	16,630.2		14,387.8		
Total	35,209.8	41,066.0	41,928.8	44,925.9		42,420.0		48,236.6
All Indonesia								
Male	27,575.1	31,869.0	32,846.6	33,884.0	34,756.6	35,098.8	38,303.7	38,087.4
Female	13,686.1	15,562.0	16,596.7	19,213.1	17,973.3	17,322.4	22,458.0	21,511.3
Total	41,261.2	47,431.0	49,443.3	53,097.1	52,729.9	52,421.2	60,761.7	59,598.7

Source: Keadaan Angkatan Kerja di Indonesia 1961-1980, Biro Pusat Statistik, 1983
Proyeksi: Angkatan Kerja di Indonesia 1983-2001, Biro Pusat Statistik, 1983

TABLE 2.16

Indonesia: Percentage of Employed Population Working Less Than 35 Hours Per Week

	Susenas 1964 - 65			Sakernas 1976			Sakernas 1977			Sakernas 1978			Census 1980		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Java															
Urban	12.9	28.0	17.6	11.1	21.2	14.2	9.5	19.0	12.4	13.2	22.2	16.3	12.2	21.5	15.1
Rural	23.4	43.4	30.2	26.8	45.5	33.5	28.0	46.0	34.3	31.0	49.5	38.2	28.5	47.5	35.0
Total	22.4	42.2	29.1	23.3	42.3	30.7	25.1	42.6	31.2	28.2	45.7	34.8	24.9	41.9	30.9
Outer Java															
Urban	16.7	26.0	18.9	13.9	31.1	18.3	11.9	32.5	17.2	13.3	36.4	19.0	14.8	31.0	18.5
Rural	23.2	32.6	26.4	30.9	48.5	36.9	26.7	45.4	32.7	37.0	56.3	44.1	34.5	52.1	40.4
Total	22.5	32.1	25.6	27.9	46.3	33.9	24.0	43.6	30.2	33.5	53.9	40.6	31.3	50.0	37.3
All Indonesia															
Urban	14.3	27.4	18.1	12.1	24.2	15.7	10.3	23.3	14.1	13.8	26.1	17.7	13.0	23.4	16.0
Rural	22.3	40.0	28.9	28.2	46.5	34.6	27.5	45.8	33.8	33.2	51.6	40.0	30.8	49.9	37.3
Total	22.4	39.0	27.9	25.6	43.6	31.7	24.7	42.9	30.8	30.0	48.2	36.6	27.2	45.4	33.2

Source: Keadaan Angkatan Kerja di Indonesia 1961-1980, Biro Pusat Statistik, 1983

TABLE 2.17

Total Population Age 10 Years and Over
by Level of Education, Including Percentage Employed, 1980
(000)

	Population Aged 10 +		Percentage Employed	
	Male	Female	Male	Female
No Schooling *	9,684	19,076	80.4	39.2
Less than Primary	22,513	20,260	61.2	27.7
Primary	12,001	9,536	87.3	27.5
Junior High (Gen.)	3,067	2,097	54.8	17.2
Junior High (Voc.)	692	381	70.4	26.2
Senior High (Gen.)	1,504	759	67.8	28.9
Senior High (Voc.)	1,460	815	81.7	56.7
Academy	206	74	86.9	56.8
University	175	53	92.6	64.2
	51,302	53,051	67.5	31.9

Source: Tables 7 and 16

* Includes unstated.

TABLE 2.18

Inter-Island Provincial Variation:
Percent Economically Active Age 10 Years and Over, 1980

	RANGE OF VARIATION — Urban	Rural	Total
Sumatra			
Male	51.4 - 60.8	67.2 - 74.5	64.9 - 70.2
Female	13.6 - 17.7	27.5 - 48.4	24.4 - 42.1
Total	33.5 - 38.8	47.9 - 58.3	46.9 - 55.1
Java			
Male	50.7 - 62.5	66.1 - 74.2	62.7 - 71.7
Female	19.4 - 35.4	13.7 - 55.7	22.6 - 51.0
Total	38.5 - 47.4	40.4 - 63.6	42.8 - 58.9
Kalimantan			
Male	58.5 - 60.9	70.4 - 73.5	68.5 - 72.0
Female	13.6 - 21.4	25.4 - 50.6	21.1 - 44.2
Total	37.4 - 42.1	49.3 - 62.2	44.7 - 57.8
Sulawesi			
Male	54.6 - 57.1	64.9 - 71.1	64.0 - 69.5
Female	15.0 - 22.9	17.7 - 29.6	17.2 - 28.3
Total	34.3 - 39.8	40.6 - 50.9	39.4 - 49.5
Other *			
Male	43.4 - 56.3	58.7 - 72.4	57.3 - 69.8
Female	9.4 - 33.0	28.1 - 43.0	26.6 - 41.2
Total	31.6 - 44.6	43.5 - 55.3	42.2 - 53.6

Source: Population Census 1980, Series S-2, Table 40.1-9

* Includes Bali, NTB, NTT, Maluku, and Irian Jaya.

TABLE 3.1

Indonesia: Population 10 Years of Age and Over Who Worked During Previous Week by Sex, Urban-Rural Location and Total Number of Hours Worked, 1980

	TOTAL HOURS WORKED							Not	
	0	1-9	10-24	25-34	35-44	45-59	60+	Stated	Total
Urban									
Male	115,224	102,430	406,699	406,431	1,901,038	2,399,005	1,451,797	95,309	6,877,933
Female	64,521	75,105	346,742	265,233	700,165	663,100	665,838	67,236	2,847,940
Total	179,745	177,535	753,441	671,664	2,601,203	3,062,105	2,117,635	162,545	9,725,873
Rural									
Male	609,528	712,422	4,177,607	3,742,993	8,341,384	6,953,894	3,023,589	178,882	27,740,599
Female	628,776	792,402	4,032,743	2,348,518	3,370,791	1,810,574	913,952	188,894	14,086,650
Total	1,238,304	1,504,824	8,210,350	6,091,511	11,712,175	8,764,468	3,937,841	367,776	41,827,249
All Indonesia									
Male	724,752	814,852	4,584,306	4,149,424	10,242,422	9,352,899	4,475,686	274,191	34,618,532
Female	693,297	867,507	4,379,485	2,613,751	4,070,956	2,473,674	1,579,790	256,130	16,934,590
Total	1,418,049	1,682,359	8,963,791	6,763,175	14,313,378	11,826,573	6,055,476	530,321	51,553,122

Source: Population Census 1980, Series S-2

TABLE 3.1a

Indonesia: Population 10 Years of Age and Over Who Worked During Previous Week by Sex, Urban-Rural Location, and Percentage Distribution by Total Hours Worked, 1980

	TOTAL HOURS WORKED							Not	
	0	1-9	10-24	25-34	35-44	45-59	60+	Stated	Total
Urban									
Male	8.1	6.1	4.5	6.0	13.3	20.3	24.0	18.0	13.3
Female	4.6	4.5	3.9	3.9	4.9	5.6	11.0	12.7	5.6
Total	12.7	10.6	8.4	9.9	18.2	25.9	35.0	30.7	18.9
Rural									
Male	43.0	42.3	46.6	55.4	58.3	58.8	49.9	33.7	53.8
Female	44.3	47.1	45.0	34.7	23.5	15.3	15.1	35.6	27.3
Total	87.3	89.4	91.6	90.1	81.8	74.1	65.0	69.3	81.1
Indonesia									
Male	51.1	48.4	51.1	61.4	71.6	79.1	73.9	51.7	67.1
Female	48.9	51.6	48.9	38.6	28.4	20.9	26.1	48.3	32.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Table 3.1

TABLE 3.1b

Indonesia: Population 10 Years of Age and Over Who Worked During Previous Week by Total Hours Worked and Percentage Distribution by Sex and Urban-Rural Location, 1980

Hours Worked	URBAN			RURAL			ALL INDONESIA		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
0	1.7	2.2	1.8	2.2	4.5	3.0	2.1	4.1	2.8
1-9	1.5	2.6	1.8	2.6	5.6	3.6	2.4	5.1	3.3
10-24	5.9	12.2	7.7	15.1	28.6	19.6	13.2	25.9	17.4
25-34	5.9	9.3	6.9	13.5	16.7	14.6	12.0	15.4	13.1
35-44	27.6	24.6	26.8	30.1	23.9	28.0	29.6	24.1	27.8
45-59	34.9	23.3	31.5	25.0	12.9	20.9	27.0	14.6	22.9
60 +	21.1	23.4	21.8	10.9	6.5	9.4	12.9	9.3	11.7
Not Stated	1.4	2.4	1.7	0.6	1.3	0.9	0.8	1.5	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Table 3.1

TABLE 3.2

Indonesia: Population 10 Years of Age and Over Who Worked During the Previous Week by Age Group and Total Number of Hours Worked, 1980

Age Group	TOTAL HOURS WORKED							Not Stated	Total
	0 *	1-9	10-24	25-34	35-44	45-59	60+		
10 - 14	53,453	180,456	734,142	253,585	331,156	220,363	134,007	18,745	1,925,907
15 - 19	156,717	226,722	1,215,843	771,146	1,425,036	1,235,670	706,341	52,427	5,789,902
20 - 24	182,959	195,389	1,064,381	868,380	1,910,025	1,739,956	880,669	72,538	6,914,297
25 - 29	184,182	181,354	1,002,731	880,429	2,070,431	1,830,994	918,957	74,844	7,143,922
30 - 34	138,781	136,860	776,153	678,798	1,579,651	1,352,629	684,137	61,104	5,408,113
35 - 39	150,858	151,304	860,199	751,473	1,722,005	1,406,075	713,238	63,802	5,818,954
40 - 44	135,426	138,008	781,667	673,558	1,550,546	1,211,718	613,352	55,591	5,159,866
45 - 49	117,632	116,785	676,159	574,299	1,238,301	1,005,883	496,728	43,816	4,269,603
50 - 54	103,216	111,592	628,698	498,512	1,034,392	800,794	398,514	36,600	3,612,518
55 - 59	70,073	70,778	399,055	301,926	586,684	448,311	223,052	21,044	2,120,923
60 - 64	59,579	73,233	383,716	260,132	459,514	323,322	159,390	15,288	1,734,174
65 +	65,052	99,697	439,682	250,280	404,086	249,482	126,210	14,311	1,648,800
Not Stated	121	181	1,165	657	1,551	1,376	881	211	6,143
Total	1,418,049	1,682,359	8,963,791	6,763,175	14,313,378	11,826,573	6,055,476	530,321	51,553,122

Source: Population Census 1980, Series S-2, Table 56.9

* Note: Temporarily not working

TABLE 3.2a

Indonesia: Population 10 Years of Age and Over Who Worked During Previous Week, Percentage Distribution of Total Number Hours Worked by Age Group, 1980

Age Group	TOTAL HOURS WORKED							Not Stated	Total
	0	1-9	10-24	25-34	35-44	45-59	60+		
10 - 14	3.8	10.7	8.2	3.7	2.3	1.9	2.2	3.5	3.7
15 - 19	11.1	13.5	13.5	11.4	10.0	10.5	11.7	9.9	11.2
20 - 24	12.9	11.6	11.9	12.8	13.4	14.7	14.5	13.7	13.4
25 - 29	13.0	10.8	11.2	13.0	14.5	15.5	15.2	14.1	13.9
30 - 34	9.8	8.1	8.7	10.0	11.0	11.4	11.3	11.5	10.5
35 - 39	10.6	9.0	9.6	11.1	12.0	11.9	11.8	12.0	11.3
40 - 44	9.5	8.2	8.7	10.0	10.8	10.2	10.1	10.5	10.0
45 - 49	8.3	7.0	7.5	8.5	8.7	8.5	8.2	8.3	8.3
50 - 54	7.3	6.6	7.0	7.4	7.2	6.8	6.6	6.9	7.0
55 - 59	4.9	4.2	4.5	4.5	4.1	3.8	3.7	4.0	4.1
60 - 64	4.2	4.4	4.3	3.9	3.2	2.7	2.6	2.9	3.4
65 +	4.6	5.9	4.9	3.7	2.8	2.1	2.1	2.7	3.2
Not Stated	-	-	-	-	-	-	-	-	-
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Table 3.2

TABLE 3.2b

Indonesia: Population 10 Years of Age and Over Who Worked During Previous Week, Percentage Distribution of Age Group by Total Number Hours Worked, 1980

Hours Worked	AGE GROUPS												
	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65 +	Total
0	2.8	2.7	2.7	2.6	2.6	2.6	2.6	2.8	2.9	3.3	3.4	3.9	2.8
1-9	9.4	3.9	2.8	2.5	2.5	2.6	2.7	2.7	3.1	3.4	4.2	6.0	3.3
1-24	38.1	21.0	15.4	14.0	14.3	14.8	15.1	15.8	17.4	18.8	22.1	26.7	17.4
25-34	13.2	13.3	12.6	12.3	12.6	12.9	13.1	13.5	13.8	14.2	15.0	15.2	13.1
35-44	17.2	24.6	27.6	29.0	29.2	29.6	30.0	29.0	28.6	27.7	26.5	24.5	27.8
45-59	11.4	21.4	25.2	25.6	25.0	24.2	23.5	23.6	22.2	21.1	18.7	15.1	22.9
60 +	6.9	12.2	12.7	12.9	12.7	12.2	11.9	11.6	11.0	10.5	9.2	7.7	11.7
Not Stated	1.0	0.9	1.0	1.1	1.1	1.1	1.1	1.0	1.0	1.0	0.9	0.9	1.0
Total	100.0	100.0	100.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Table 3.2

TABLE 3.3

Indonesia: Population 10 Years of Age and Over Who Worked During Previous Week by Condensed Age Groupings and Total Hours Worked, 1980

	TOTAL HOURS WORKED									
	0 - 34			35 - 59			60 +		1/	Grand
Age Group	Male	Female	Total	Male	Female	Total	Male	Female	Total	Total
Ages 10-19	2,030,539	1,561,525	3,592,064	2,067,446	1,144,779	3,212,225	511,215	400,305	911,520	7,715,809
Ages 20-59	7,215,399	6,386,416	13,601,815	16,419,169	5,069,226	21,488,395	4,016,315	1,341,671	5,357,986	40,448,196
Ages 60+ 1/	1,027,396	606,099	1,633,495	1,108,706	330,625	1,439,331	222,347	93,944	316,291	3,389,117
	10,273,334	8,554,040	18,827,374	19,595,321	6,544,630	26,139,951	4,749,877	1,835,920	6,585,797	51,553,122

Source: Population Census 1981, Series S-2

1/ Includes "not stated." This increases total population working over 60 hours or more per week by 8.1% in absolute terms, divided roughly in half between male and female. Population age 60 years and over is increased by 0.2%. Neither adjustment is considered to significantly affect interpretation of the table.

TABLE 3.3a

Indonesia: Population 10 Years of Age and Over Who Worked During Previous Week, Percentage Distribution of Total Hours Worked by Condensed Age Groupings, 1980

	TOTAL HOURS WORKED									
	0 - 34			35 - 59			60 +			Grand
Age Group	Male	Female	Total	Male	Female	Total	Male	Female	Total 1/	Total
Ages 10-19	19.8	18.2	19.1	10.6	17.5	12.3	10.8	21.8	13.8	15.0
Ages 20-59	70.2	74.7	72.2	83.8	77.5	82.2	84.5	73.1	81.4	78.4
Ages 60+ 1/	10.0	7.1	8.7	5.6	5.0	5.5	4.7	5.1	4.8	6.6
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Table 3.3

TABLE 3.3b

Indonesia: Population 10 Years of Age and Over Who Worked During Previous Week, Percentage Distribution of Condensed Age Groups by Total Hours Worked by Sex, 1980

	Ages 10-19	Ages 20-59	Ages 60+	Total
0 - 34 Hours				
Male	26.3	17.8	30.3	19.9
Female	20.3	15.8	17.9	16.6
Total	46.6	33.6	48.2	36.5
35 - 59 Hours				
Male	26.8	40.6	32.7	38.0
Female	14.8	12.5	9.8	12.7
Total	41.6	53.1	42.5	50.7
60 + Hours				
Male	6.6	10.0	6.6	9.2
Female	5.2	3.3	2.7	3.6
Total	11.8	13.3	9.3	12.8
All Categories				
Male	59.7	68.4	69.6	67.2
Female	40.3	31.6	30.4	32.8
Total	100.0	100.0	100.0	100.0

Source: Table 3.3

TABLE 3.4

Indonesia: Underemployment by Age, Sex, and Urban-Rural Location, 1980

	0 - 9 HOURS			10 - 24 HOURS			25 - 34 HOURS			0 - 34 HOURS		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Ages 10 - 14												
Male	5,959	127,625	133,584	14,110	427,491	441,601	5,938	147,962	153,900	26,007	703,078	729,085
Female	4,760	95,565	100,325	13,008	279,533	292,541	5,254	94,431	99,685	23,022	469,529	492,551
Total	10,719	223,190	233,909	27,118	707,024	734,142	11,192	242,393	253,585	49,029	1,172,607	1,221,636
Ages 15 - 19												
Male	18,217	176,864	195,081	41,705	613,825	655,530	29,226	421,617	450,843	89,148	1,212,306	1,301,454
Female	14,764	173,594	188,358	35,555	524,758	560,313	22,245	298,058	320,303	72,564	996,410	1,068,974
Total	32,981	350,458	383,439	77,260	1,138,583	1,215,843	51,471	719,675	771,146	161,712	2,208,716	2,370,428
Ages 20 - 24												
Male	28,751	148,130	176,881	55,957	458,858	514,815	55,905	463,955	519,860	140,613	1,070,943	1,211,556
Female	19,203	182,264	201,467	44,282	505,284	549,566	37,837	310,683	348,520	101,322	998,231	1,099,553
Total	47,954	330,394	378,348	100,239	964,142	1,064,381	93,742	774,638	868,380	241,935	2,069,174	2,311,109
Ages 25 - 59												
Male	143,323	716,949	860,282	250,899	2,219,377	2,470,276	286,966	2,386,819	2,673,285	681,198	5,322,645	6,003,843
Female	89,478	857,089	946,567	228,757	2,425,829	2,654,586	185,406	1,500,304	1,685,710	503,641	4,783,222	5,286,863
Total	232,811	1,574,038	1,806,849	479,656	4,645,206	5,124,862	472,372	3,886,623	4,358,995	1,184,839	10,105,867	11,290,706
Ages 60 +												
Male	21,394	152,382	173,776	44,028	458,056	502,084	28,396	323,140	351,536	93,818	933,578	1,027,396
Female	11,421	112,666	124,087	25,140	297,339	322,479	14,491	145,042	159,533	51,052	555,047	606,099
Total	32,815	265,048	297,863	69,168	755,395	824,563	42,887	468,182	511,069	144,870	1,488,625	1,633,495
All Ages												
Male	217,654	1,321,950	1,539,604	406,699	4,177,607	4,584,306	406,431	3,742,193	4,149,424	1,030,784	9,242,550	10,273,334
Female	139,626	1,421,178	1,560,804	346,742	4,032,743	4,379,485	265,233	2,348,518	2,613,751	751,601	7,802,439	8,554,040
Total	357,280	2,743,128	3,100,408	753,441	8,210,350	8,963,791	671,664	6,091,511	6,763,175	1,782,385	17,044,989	18,827,374

Source: Population Census, 1980, Series S-2, Tables 56.1-9

TABLE 3.4a

Indonesia: Percentage Distribution Underemployment
by Sex and Urban-Rural Location within Age Categories, 1980

	0 - 9 HOURS			10 - 24 HOURS			25 - 34 HOURS			0 - 34 HOURS		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Ages 10 - 14												
Male	1.7	4.6	4.3	1.9	5.2	4.9	0.9	2.4	2.3	1.5	4.1	3.9
Female	1.3	3.5	3.2	1.7	3.4	3.3	0.8	1.6	1.5	1.2	2.8	2.6
Total	3.0	8.1	7.5	3.6	8.6	8.2	1.7	4.0	3.8	2.7	6.9	6.5
Ages 15 - 19												
Male	5.1	6.4	6.3	5.5	7.5	7.3	4.4	6.9	6.7	5.0	7.1	6.9
Female	4.1	6.3	6.1	4.7	6.4	6.3	3.3	4.9	4.7	4.1	5.9	5.7
Total	9.2	12.7	12.4	10.2	13.9	13.6	7.7	11.8	11.4	9.1	13.0	12.6
Ages 20 - 24												
Male	8.0	5.4	5.7	7.4	5.6	5.7	8.3	7.6	7.7	7.9	6.3	6.4
Female	5.4	6.6	6.5	5.9	6.1	6.1	5.6	5.1	5.1	5.7	5.9	5.9
Total	13.4	12.0	12.2	13.3	11.7	11.8	13.9	12.7	12.8	13.6	12.2	12.3
Ages 25 - 59												
Male	40.1	26.1	27.8	33.3	27.0	27.6	42.7	39.2	39.5	38.2	31.2	31.9
Female	25.1	31.3	30.5	30.4	29.6	29.6	27.6	24.6	24.9	28.3	28.1	28.1
Total	65.2	57.4	58.3	63.7	56.6	57.2	70.3	63.8	64.4	66.5	59.3	60.0
Ages 60 +												
Male	6.0	5.6	5.6	5.9	5.6	5.6	4.2	5.3	5.2	5.2	5.5	5.5
Female	3.2	4.1	4.0	3.3	3.6	3.6	2.2	2.4	2.4	2.9	3.2	3.1
Total	9.2	9.7	9.6	9.2	9.2	9.2	6.4	7.7	7.6	8.1	8.7	8.6
All Ages												
Male	60.9	48.2	49.7	54.0	50.9	51.1	60.5	61.4	61.4	57.8	54.2	54.6
Female	39.1	51.8	50.3	46.0	49.1	48.9	39.5	38.6	38.6	42.2	45.8	45.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Table 3.4

TABLE 3.4b

Indonesia: Percentage Distribution of Underemployment by Age, Sex, and Urban-Rural Location, 1980

	0 - 9 HOURS			10 - 24 HOURS			25 - 34 HOURS			0 - 34 HOURS		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Ages 10 - 14												
Male	0.8	17.5	18.3	2.0	58.6	60.6	0.8	20.3	21.1	3.6	96.4	100.0
Female	1.0	19.4	20.4	2.6	56.8	59.4	1.1	19.1	20.2	4.7	95.3	100.0
Total	0.9	18.3	19.2	2.2	57.9	60.1	0.9	19.8	20.7	4.0	96.0	100.0
Ages 15 - 19												
Male	1.4	13.6	15.0	3.2	47.2	50.4	2.2	32.4	34.6	6.8	93.2	100.0
Female	1.4	16.2	17.6	3.3	49.1	52.4	2.1	27.9	30.0	6.8	93.2	100.0
Total	1.4	14.8	16.2	3.3	48.0	51.3	2.1	30.4	32.5	6.8	93.2	100.0
Ages 20 - 24												
Male	2.4	12.2	14.6	4.6	37.9	42.5	4.6	38.3	42.9	11.6	88.4	100.0
Female	1.8	16.5	18.3	4.0	46.0	50.0	3.4	28.3	31.7	9.2	90.8	100.0
Total	2.1	14.3	16.4	4.3	41.7	46.0	4.1	33.5	37.6	10.5	89.5	100.0
Ages 25 - 59												
Male	2.4	11.9	14.3	4.2	37.0	41.2	4.8	39.7	44.5	11.4	88.6	100.0
Female	1.7	16.2	17.9	4.3	45.9	50.2	3.5	28.4	31.9	9.5	90.5	100.0
Total	2.1	13.9	16.0	4.3	41.1	45.4	4.2	34.4	38.6	10.5	89.5	100.0
Ages 60 +												
Male	2.1	14.8	16.9	4.3	44.6	48.9	2.7	31.5	34.2	9.1	90.9	100.0
Female	1.9	18.6	20.5	4.1	49.1	53.2	2.4	23.9	26.3	8.4	91.6	100.0
Total	2.0	16.2	18.2	4.3	46.2	50.5	2.6	28.7	31.3	8.9	91.1	100.0
All Ages												
Male	2.1	12.9	15.0	3.9	40.7	44.6	4.0	36.4	40.4	10.0	90.0	100.0
Female	1.6	16.6	18.2	4.1	47.1	51.2	3.1	27.5	30.6	8.8	91.2	100.0
Total	1.9	14.6	16.5	4.0	43.6	47.6	3.6	32.3	35.9	9.5	90.5	100.0

Source: Table 3.4

TABLE 3.5

Indonesia: Population 10 Years of Age and Over Classified as Economically Active, 1980
(000)

Age Group	URBAN			RURAL			ALL-INDONESIA		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
10 - 14	64.9	82.1	147.0	1,116.0	723.5	1,839.5	1,180.9	805.6	1,986.5
15 - 19	511.2	458.3	969.5	3,070.0	1,972.1	5,042.1	3,581.2	2,430.3	6,011.5
20 - 24	1,146.9	498.0	1,644.8	3,602.6	1,900.8	5,503.3	4,749.4	2,398.8	7,148.2
25 - 29	1,251.4	387.4	1,638.9	3,932.2	1,680.6	5,612.8	5,183.7	2,068.0	7,251.7
30 - 34	902.5	278.9	1,181.3	2,922.5	1,357.6	4,280.0	3,824.9	1,636.4	5,461.4
35 - 39	878.3	295.7	1,174.0	3,128.1	1,565.8	4,693.9	4,006.3	1,861.5	5,867.8
40 - 44	752.7	283.6	1,036.2	2,711.9	1,452.0	4,163.9	3,464.6	1,735.5	5,200.1
45 - 49	543.8	229.1	772.9	2,289.8	1,239.7	3,529.5	2,833.6	1,468.8	4,302.4
50 - 54	454.9	183.7	638.6	1,992.4	1,010.3	3,002.7	2,447.3	1,194.0	3,641.3
55 - 59	251.7	99.5	351.2	1,204.0	582.4	1,786.4	1,455.7	681.3	2,137.6
60 - 64	168.0	73.3	241.3	1,028.7	476.5	1,505.2	1,196.7	549.8	1,746.5
65 +	139.6	64.8	204.4	1,029.9	425.6	1,455.5	1,169.5	490.4	1,659.9
Not Stated	0.9	0.4	1.2	4.1	1.0	5.1	5.0	1.4	6.3
Total	7,066.6	2,934.7	10,001.3	28,032.2	14,387.8	42,420.0	35,098.8	17,322.4	52,421.2

Source: Population Census 1980, Series S-2, Tables 39.1-9

TABLE 3.5a

Indonesia: Percentage of Population 10 Years of Age and Over Classified as Economically Active, 1980

Age Group	URBAN			RURAL			ALL-INDONESIA		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
10 - 14	3.3	4.3	3.8	15.6	11.0	13.4	12.9	9.5	11.3
15 - 19	25.6	21.7	23.6	55.7	34.9	45.2	47.7	31.3	39.3
20 - 24	65.9	27.6	46.4	85.0	36.4	58.2	79.4	34.2	55.0
25 - 29	88.4	28.7	59.3	93.7	38.4	65.4	92.4	36.1	63.9
30 - 34	94.4	29.9	62.5	95.3	42.3	68.2	95.1	39.5	66.9
35 - 39	95.6	32.4	64.1	95.6	45.4	69.9	95.6	42.7	68.6
40 - 44	94.9	36.4	66.0	95.1	48.4	71.2	95.1	46.0	70.1
45 - 49	92.2	36.2	63.2	94.5	49.5	71.6	94.1	46.8	70.0
50 - 54	83.6	34.0	58.9	91.7	47.0	69.4	90.0	44.4	67.3
55 - 59	70.5	29.1	50.2	88.3	43.9	66.4	84.6	40.8	63.1
60 - 64	59.9	23.8	41.0	80.5	35.0	57.0	76.8	32.9	54.1
65 +	37.2	13.2	23.6	56.8	20.4	37.3	53.4	19.0	34.8
Not Stated	44.9	19.7	32.2	48.3	14.6	33.4	47.7	15.8	33.1
Total	59.1	24.2	41.5	71.2	35.2	52.9	68.4	32.7	50.2

Source: Population Census 1980, Series S-2, page 39.1-9

TABLE 3.6

Indonesia: Population 10 Years of Age and Over Explicitly Classified as Unemployed, 1980
(000)

Age Group	URBAN			RURAL			ALL INDONESIA		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
10 - 14	3.8	3.9	7.6	26.1	26.8	52.9	29.9	30.7	60.6
15 - 19	42.1	26.0	68.1	80.9	72.6	153.5	123.0	98.6	221.6
20 - 24	77.6	32.6	110.1	67.9	55.9	123.8	145.4	88.5	233.9
25 - 29	28.6	10.1	38.7	35.3	33.8	69.0	63.9	43.9	107.7
30 - 34	9.5	4.3	13.8	16.6	22.8	39.4	26.1	27.1	53.2
35 - 39	6.6	3.1	9.7	15.8	23.3	39.1	22.5	26.4	48.9
40 - 44	5.3	2.1	7.4	12.6	20.3	32.9	17.9	22.4	40.3
45 - 49	4.6	1.6	6.2	10.6	16.0	26.6	15.2	17.5	32.8
50 - 54	4.8	1.5	6.3	9.7	12.7	22.5	14.5	14.2	28.8
55 - 59	2.9	0.6	3.5	6.2	6.9	13.1	9.1	7.6	16.7
60 - 64	1.8	0.5	2.3	5.0	5.0	10.1	6.8	5.5	12.4
65 +	1.1	0.5	1.6	4.8	4.8	9.6	5.8	5.3	11.1
Not Stated	-	-	-	-	-	-	-	-	0.1
Total	188.7	86.7	275.4	291.6	301.1	592.7	480.3	387.9	868.1

Source: Population Census 1980, Series S-2, Tables 39.1-9

TABLE 3.6a

Indonesia: Percentage of Labor Force 10 Years of Age and Over Explicitly Classified as Unemployed, 1980

Age Group	URBAN			RURAL			ALL INDONESIA		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
10 - 14	5.8	4.7	5.2	2.3	3.7	2.9	2.5	3.8	3.0
15 - 19	8.2	5.7	7.0	2.6	3.7	3.0	3.4	4.1	3.7
20 - 24	6.8	6.5	6.7	1.8	2.9	2.2	3.1	3.7	3.3
25 - 29	2.3	2.6	2.4	0.9	2.0	1.2	2.2	2.1	1.5
30 - 34	1.1	1.5	1.2	0.6	1.7	0.9	0.7	1.7	1.0
35 - 39	0.8	1.0	0.8	0.5	1.5	0.8	0.6	1.4	1.2
40 - 44	0.7	0.7	0.7	0.5	1.4	0.8	0.5	2.3	0.8
45 - 49	0.8	0.7	0.8	0.5	1.3	0.7	0.5	2.2	0.8
50 - 54	1.1	0.8	1.0	0.5	1.3	0.7	0.6	2.2	0.8
55 - 59	1.2	0.6	1.0	0.5	1.2	0.7	0.6	2.1	0.8
60 - 64	1.1	0.7	1.0	0.5	1.1	0.7	0.6	1.0	0.7
65 +	0.8	0.8	0.8	0.5	1.1	0.7	0.5	1.1	0.7
Not Stated	2.3	-	1.6	1.0	12.3	3.2	1.2	8.9	2.9
Total	2.7	3.0	2.8	1.0	2.1	1.4	1.4	2.2	1.7

Source: Population Census 1980, Series S-2, Tables 39.1-9

TABLE 3.7

Indonesia: Population 10 Years of Age and Over Classified as Working but Temporarily Unemployed During the Week Preceding the Census, 1980
(000)

Age Group	URBAN			RURAL			ALL INDONESIA		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
10 - 14	1.6	1.2	2.8	27.8	22.8	50.6	29.4	24.1	55.5
15 - 19	6.7	6.9	13.6	68.9	74.2	143.2	75.6	81.1	156.7
20 - 24	14.1	8.9	23.0	73.7	86.3	160.0	87.8	95.2	183.0
25 - 29	17.7	7.8	25.4	78.0	80.8	158.8	95.6	86.5	184.2
30 - 34	13.1	6.2	19.3	55.1	64.4	119.5	68.2	70.6	138.8
35 - 39	11.9	7.5	19.4	60.8	70.6	131.5	72.7	78.1	150.9
40 - 44	11.5	6.3	17.8	53.4	64.2	117.6	64.9	70.5	135.4
45 - 49	10.3	6.0	16.3	48.5	52.9	101.4	58.8	58.9	117.6
50 - 54	9.7	5.4	15.1	44.9	43.2	88.1	54.6	48.6	103.2
55 - 59	7.7	3.5	11.2	32.1	26.7	58.8	39.8	30.3	70.1
60 - 64	5.6	2.3	7.9	28.8	22.9	51.7	34.4	25.2	59.6
65 +	5.5	2.5	7.9	37.4	19.7	57.1	42.9	22.2	65.1
Not Stated	-	-	-	-	-	-	-	-	-
Total	115.2	64.5	179.7	609.5	628.8	1,238.3	724.7	693.3	1,418.0

Source: Population Census 1980, Series S-2, Tables 56.1-9

TABLE 3./a

Indonesia: Percentage of Labor Force 10 Years of Age and Over Classified as Working but Temporarily Unemployed During the Week Preceding the Census, 1980
(000)

Age Group	URBAN			RURAL			ALL-INDONESIA		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
10 - 14	2.5	1.5	1.9	2.5	3.2	2.8	2.5	3.0	2.8
15 - 19	1.3	1.5	1.4	2.2	3.8	2.8	2.1	3.1	2.6
20 - 24	1.2	1.8	1.4	2.0	4.5	2.9	1.8	4.0	2.6
25 - 29	1.4	2.0	1.5	2.0	4.6	2.8	1.8	4.3	2.5
30 - 34	1.5	2.2	1.6	1.9	4.7	2.8	1.8	4.3	2.5
35 - 39	1.4	2.5	1.7	1.9	4.5	2.8	1.8	4.2	2.6
40 - 44	1.5	2.2	1.7	2.0	4.4	2.8	1.9	4.1	2.6
45 - 49	1.9	2.6	2.1	2.1	4.3	2.9	2.1	4.0	2.7
50 - 54	2.1	2.9	2.4	2.2	4.3	2.9	2.2	4.1	2.8
55 - 59	3.1	3.5	3.2	2.7	4.6	3.3	2.7	4.4	3.3
60 - 64	3.3	3.2	3.3	2.8	4.8	3.4	2.9	4.6	3.4
65 +	3.9	3.8	3.9	3.6	4.6	3.9	3.7	4.5	3.9
Not Stated	-	-	-	-	-	-	-	-	-
Total	1.6	2.2	1.8	2.2	4.4	2.9	2.1	4.0	2.7

Source: Population Census 1980, Series S-2, page 39.1-9 and 56.1-9

TABLE 3.8

Indonesia: Population 10 Years of Age and Over Classified as Neither Working, Looking for Work, Attending School or Housekeeping During the Week Preceding the Census, 1980
(000)

Age Group	URBAN			RURAL			ALL-INDONESIA		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
10 - 14	114.9	131.2	246.1	738.7	792.3	1,531.0	853.6	923.5	1,777.1
15 - 19	257.4	262.2	519.6	803.9	849.7	1,653.6	1,061.3	1,111.9	2,173.2
20 - 24	247.8	159.5	407.3	422.9	350.9	773.8	670.7	510.4	1,181.1
25 - 29	101.5	64.2	165.7	220.1	153.0	373.1	321.6	217.2	538.8
30 - 34	43.1	27.8	70.9	124.0	85.3	209.3	167.1	113.1	280.2
35 - 39	35.1	22.9	58.0	124.6	89.1	213.7	159.8	112.1	271.9
40 - 44	36.3	28.6	64.9	120.0	107.6	227.6	156.3	136.2	292.5
45 - 49	41.6	34.7	76.3	115.8	126.8	242.6	157.4	161.5	318.9
50 - 54	81.3	57.2	138.5	159.6	221.2	380.8	240.8	278.4	519.2
55 - 59	95.0	57.8	152.8	141.0	193.4	334.4	236.0	251.2	487.2
60 - 64	104.2	94.6	198.8	226.5	391.0	617.5	330.7	485.6	816.3
65 +	220.7	272.8	493.5	733.4	1,091.7	1,825.1	954.1	1,364.5	2,318.6
Not Stated	0.8	1.0	1.8	4.0	4.1	8.1	4.8	5.1	9.9
Total	1,379.7	1,214.5	2,594.2	3,934.5	4,456.1	8,390.6	5,314.2	5,670.7	10,984.9

Source: Population Census 1980, Series S-2, Tables 39.1-9

TABLE 3.8a
Indonesia: Percentage of Population 10 Years of Age and Over Classified as Neither Working, Looking for Work, Attending School or Housekeeping, 1980

Age Group	URBAN			RURAL			ALL-INDONESIA		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
10 - 14	5.8	6.8	6.3	10.3	12.1	11.2	9.3	10.9	10.1
15 - 19	12.9	12.4	12.6	14.6	15.0	14.8	14.1	14.3	14.2
20 - 24	14.3	8.8	11.5	10.0	6.7	8.2	11.2	7.3	9.1
25 - 29	7.1	4.7	6.0	5.2	3.5	4.3	5.7	3.8	4.8
30 - 34	4.5	3.0	3.8	4.0	2.6	3.3	4.2	2.7	3.4
35 - 39	3.8	2.5	3.2	3.8	2.6	3.2	3.8	2.6	3.2
40 - 44	4.5	3.7	4.1	4.2	3.6	3.9	4.3	3.6	3.9
45 - 49	7.1	5.5	6.2	4.8	5.1	4.9	5.2	5.1	5.2
50 - 54	14.9	10.6	12.7	7.4	10.3	8.8	8.9	10.3	9.6
55 - 59	26.6	17.0	21.9	10.3	14.5	12.4	13.7	15.0	14.4
60 - 64	37.0	30.9	33.8	17.7	28.7	23.4	21.2	29.1	25.3
65 +	58.9	55.8	57.0	40.4	52.2	46.7	43.6	52.8	48.5
Not Stated	-	-	-	-	-	-	-	-	-
Total	11.5	10.0	10.8	10.0	10.9	10.5	10.4	10.7	10.5

Source: Population Census 1980, Series S-2, Tables 39.1-9

TABLE 3.9

Population 10 Years of Age and Over Who Worked During the Previous Week by Total Number of Hours Worked in the Previous Week, Looking/ Not Looking for Work, and Reason for Not Looking for Other/ Additional Work, 1980
(000)

Total Number of Hours Worked	Looking for Work	NOT LOOKING FOR WORK (REASON FOR)								
		Thought No Need	Lost Hope	Attending School	House-keeping	Not Capable	Others	Not Stated	Total	Grand Total
0 *	118.6	375.6	3.8	28.8	420.7	77.7	375.1	17.5	1,299.5	1,418.0
1 - 9	109.7	593.2	5.5	166.0	429.2	112.2	259.1	7.5	1,572.6	1,682.4
10 - 24	710.5	3,795.0	26.7	515.7	1,978.3	459.3	1,455.8	22.5	8,253.3	8,963.8
25 - 34	539.0	3,711.6	18.4	76.4	1,013.9	284.3	1,114.5	4.8	6,224.2	6,763.2
35 - 44	1,044.7	9,072.2	36.0	43.4	1,355.3	504.4	2,252.0	5.5	13,268.7	14,313.4
45 - 59	796.7	8,146.0	26.5	13.6	698.3	352.1	1,790.6	2.9	11,029.9	11,826.6
60 +	345.9	4,202.2	15.1	1.2	321.8	180.6	988.8	-	5,709.5	6,055.5
Not Stated	34.6	250.0	1.6	8.3	127.1	18.2	87.9	2.6	495.7	530.3
Total	3,699.7	30,145.3	133.6	853.3	6,344.6	1,988.8	8,323.8	63.6	47,853.4	51,553.1

* Note: Temporarily not working

Source: Population Census, Series S-2, Table 42.9

TABLE 3.10

Population 10 Years of Age and Over Who Worked During the Previous Week by Main Industry and Number of Hours Worked, 1980
(000)

URBAN + RURAL — MALE + FEMALE

Main Industry	NUMBER OF HOURS WORKED								
	0 *	1 - 9	10 - 24	25 - 34	35 - 44	45 - 59	60 +	Not Stated	Total
1. Agriculture, Forestry, Hunting, and Fishery	916.3	1,206.2	6,761.7	4,852.2	8,479.1	5,029.6	1,426.1	162.7	28,834.0
2. Mining and Quarrying	7.0	13.5	46.9	40.3	128.9	106.9	38.4	5.4	387.3
3. Manufacturing	106.4	126.9	674.7	461.8	1,136.4	1,518.3	613.1	42.4	4,680.1
4. Electricity, Gas, and Water	0.9	1.3	4.1	2.6	22.3	26.5	7.4	1.0	66.1
5. Construction	34.3	23.9	90.3	89.0	346.2	759.7	300.9	12.9	1,657.1
6. Wholesale Trade, Retail Trade and Restaurants	173.1	182.0	1,007.8	701.5	1,515.6	1,437.3	1,508.7	152.9	6,679.0
7. Transportation, Storage, and Communication	29.7	16.9	88.8	75.6	288.0	413.7	520.7	35.0	1,468.4
8. Financing, Insurance, Real Estate and Business Services	2.5	5.0	9.1	9.9	102.0	135.6	35.8	2.4	302.3
9. Public Services	140.3	207.4	706.9	792.2	2,382.3	1,659.9	1,162.2	93.3	7,144.5
10. Others	0.5	0.5	1.8	1.3	7.(	7.4	2.8	0.5	21.6
Not Stated	7.0	18.9	64.0	34.2	69.9	61.0	35.8	21.8	312.7
Total	1,418.0	1,802.7	9,456.0	7,060.7	14,477.7	11,155.9	5,651.9	530.3	51,553.1

* Temporarily not working

Source: Population Census 1980, Series S-2, Table 50.9

TABLE 3.11

Population 10 Years of Age and Over Who Worked During the Previous Week
by Type of Main Occupation and Number of Days Worked, 1980
(000)

URBAN + RURAL — MALE + FEMALE

Type of Main Occupation	NUMBER OF DAYS WORKED									
	0 *	1	2	3	4	5	6	7	Not Stated	Total
Professional and Technical	21.1	6.8	14.9	22.4	23.0	41.5	1,172.5	212.2	2.8	1,517.2
Managers and Administrators	0.7	0.3	0.7	0.9	1.0	3.2	35.9	10.0	0.2	52.9
Clerical and Related Workers	16.8	4.0	6.5	14.6	14.4	43.3	1,381.2	307.1	3.4	1,791.4
Sales Workers	173.5	40.1	140.5	222.9	248.2	277.7	1,160.5	4,355.0	9.4	6,627.9
Service Workers	48.5	11.9	31.5	56.6	54.9	67.2	621.8	1,317.4	3.7	2,213.6
Farmers and Agricultural Workers	917.8	180.7	657.3	1,392.7	2,031.0	2,704.7	6,821.0	14,040.9	20.9	28,767.0
Production, Transport Equipment Operators and Related Workers	225.9	42.7	153.6	316.4	403.6	555.1	3,544.1	4,543.4	14.0	9,798.9
Others	5.4	0.6	1.2	3.3	4.0	5.8	284.9	72.7	0.8	378.7
Not Stated	8.4	6.8	14.3	21.5	27.2	25.5	111.9	179.1	10.5	405.4
Total	1,418.0	293.9	1,021.0	2,051.4	2,807.3	3,724.0	15,134.0	25,037.8	65.7	51,553.1

* Temporarily not working

Source: Population Census 1980, Series S-2, Table 55.9

TABLE 3.12

Economically Active Population by Industry During the Previous Week and Industry During the Previous Year, 1980
(000)

URBAN + RURAL — MALE + FEMALE

Employment Status	MAIN INDUSTRY												
	Agriculture	Mining	Manufact.	Public Utilities	Constr.	Wholesale Retail Trade	Transport. Comm.	Financial Services	Public Services	Other	Not Stated	Did Not Work	Total
Agriculture, Forestry, Hunting, Fishery	25,354.4	9.7	72.0	1.3	40.4	140.8	25.7	3.0	131.7	2.6	-	3,052.7	28,834.0
Mining and Quarrying	78.1	256.3	2.9	0.1	2.0	4.2	2.1	0.4	4.4	-	-	36.8	387.3
Manufacturing	407.3	3.0	3,588.9	0.7	9.7	35.6	6.6	2.8	35.7	0.7	-	589.2	4,680.1
Electricity, Gas, and Water	3.4	0.1	0.4	52.3	0.4	0.5	0.6	0.1	1.7	-	-	6.5	66.1
Construction	226.3	1.5	10.5	0.4	1,192.4	12.7	5.9	0.7	28.5	0.4	-	177.8	1,657.1
Wholesale Trade, Retail Trade, Restaurants	370.9	3.2	25.8	0.6	8.7	5,395.3	10.2	2.3	53.6	1.2	-	807.0	6,679.0
Transportation, Storage, Communication	58.9	1.7	6.8	0.3	3.9	9.6	1,218.4	1.0	25.2	0.2	-	142.4	1,468.4
Financing, Insurance, Real Estate and Business Services	6.2	0.3	1.7	0.1	0.9	1.9	1.0	244.6	4.4	-	-	41.2	302.3
Public Services	316.4	3.2	28.8	1.9	16.9	40.6	18.5	3.9	5,854.0	1.2	-	859.1	7,144.5
Others	1.0	0.1	0.2	-	0.1	0.2	0.1	0.02	0.5	13.4	-	6.0	21.6
Not Stated	48.8	1.3	5.6	0.4	6.7	13.4	2.4	0.7	16.5	0.3	148.9	67.6	312.7
Total	26,871.8	280.4	3,743.7	58.0	1,282.3	5,654.9	1,291.4	259.5	6,156.1	20.0	148.9	5,786.2	51,553.1
Looking for Work	230.8	1.4	23.7	0.4	15.5	29.8	11.5	3.2	43.5	0.3	5.9	502.2	868.1
Total	27,102.6	281.8	3,767.4	58.4	1,297.8	5,684.7	1,302.9	262.7	6,199.6	20.4	154.8	6,288.4	52,421.2

Source: Population Census 1980, Series S-2, Table 41.9

TABLE 3.13

Percentage of Household Expenditure Distribution
by Decile, 1976 - 81

Decile	1976	1981	Change	% Change
Lowest	3.50	3.33	- .17	- 4.9
Second	4.53	4.59	+ .06	+ 1.3
Third	5.65	5.68	+ .03	+ 0.5
Fourth	5.88	6.38	+ .50	+ 8.5
Fifth	7.83	7.25	- .58	- 7.4
Sixth	8.18	8.19	+ .01	+ 0.1
Seventh	10.09	10.73	+ .64	+ 6.3
Eighth	11.86	11.09	- .77	- 6.5
Ninth	15.22	14.52	- .70	- 4.6
Tenth	27.26	28.24	+ .98	+ 3.6
Gini Ratio	0.34	0.34		

Source: Statistik Indonesia 1983

TABLE 4.1

Population Projection of Indonesia
1980 - 2000
(000)

Age	1980	1985	1990	1995	2000
0 - 4	22,381.6	23,558.4	24,778.9	25,829.6	26,645.1
5	4,144.9	4,483.4	4,710.0	4,978.7	5,190.6
6	4,044.9	4,404.0	4,644.0	4,916.8	5,142.5
7	3,948.6	4,323.4	4,582.1	4,855.1	5,093.3
8	3,855.6	4,241.6	4,522.8	4,793.6	5,043.0
9	3,765.5	4,158.7	4,464.7	4,732.2	4,991.4
5 - 9	19,759.6	21,611.1	22,923.6	24,276.5	25,460.9
10	3,678.9	4,075.0	4,408.4	4,669.9	4,938.8
11	3,596.3	3,990.9	4,354.6	4,605.8	4,885.3
12	3,512.6	3,905.1	4,291.5	4,544.5	4,829.4
13	3,425.8	3,817.3	4,213.7	4,488.0	4,769.7
14	3,338.2	3,728.3	4,125.9	4,433.3	4,707.5
10 - 14	17,551.8	19,516.6	21,394.1	22,741.6	24,131.0
15	3,251.8	3,639.9	4,038.8	4,376.6	4,643.7
16	3,163.4	3,552.7	3,950.8	4,319.4	4,577.1
17	3,087.2	3,464.9	3,861.4	4,253.1	4,513.2
18	3,029.7	3,376.1	3,771.6	4,173.1	4,454.4
19	2,982.6	3,287.7	3,681.3	4,083.6	4,397.6
15 - 19	15,514.8	17,321.3	19,303.9	21,205.8	22,585.9
20	2,932.8	3,199.2	3,590.6	3,994.1	4,338.2
21	2,885.2	3,107.7	3,500.2	3,903.1	4,278.0
22	2,819.2	3,028.9	3,409.9	3,811.3	4,209.2
23	2,724.0	2,969.6	3,319.9	3,720.1	4,127.8
24	2,609.7	2,921.3	3,231.2	3,629.4	4,037.9
20 - 24	13,971.0	15,226.8	17,051.8	19,057.9	20,991.1
25 - 29	11,403.1	13,654.9	14,937.8	16,786.5	18,822.2
30 - 34	8,926.2	11,112.5	13,362.9	14,676.0	16,552.8
35 - 39	8,274.9	8,662.6	10,835.0	13,087.0	14,432.7
40 - 44	7,555.9	7,981.9	8,399.0	10,557.2	12,810.9
45 - 49	6,308.2	7,223.6	7,672.8	8,116.8	10,254.7
50 - 54	4,982.3	5,941.9	6,846.2	7,316.1	7,784.9
55 - 59	3,659.7	4,586.0	5,509.2	6,393.4	6,880.1
60 - 64	2,834.2	3,247.0	4,106.1	4,977.6	5,827.4
65 - 69	2,099.2	2,373.8	2,751.5	3,520.1	4,315.8
70 - 74	1,439.6	1,606.8	1,843.6	2,168.4	2,814.0
75 - 79	860.0	955.0	1,085.9	1,269.4	1,520.6
80+	518.1	574.0	654.8	767.1	923.5
Total	148,040.0	165,153.6	183,456.8	202,746.3	222,753.0

Source: Proyeksi Penduduk Indonesia 1980-2000, BPS, December 1983, pg. 44.

TABLE 4.2

Labor Force Projection
with Constant Age-Specific LFPR
from 1980 Census *
(000)

Age	1980	1985	1990	1995	2000
10 - 14	1,983	2,205	2,418	2,570	2,727
15 - 19	6,097	6,807	7,586	8,334	8,876
20 - 24	7,684	8,375	9,378	10,482	11,545
25 - 34	13,255	16,148	18,452	20,514	23,065
35 - 44	10,971	11,535	13,329	16,385	18,880
45 - 54	7,757	9,045	9,975	10,602	12,393
55 - 64	3.812	4,598	5,644	6,675	7,459
65+	1,711	1,917	2,205	2,688	3,338
Total	53,270	60,630	68,987	78,250	88,283

* @ December 31st

Source: Proyeksi Penduduk Indonesia 1980-2000, Biro Pusat, July 13, 1983, pg. 44.

Proyeksi Angkatan Kerja Indonesia 1983-2001, Biro Pusat Statistic, December 1983, pg. 9.

TABLE 4.3

Labor Force Projection
with Constant Age-Specific LFPR
from GOI 1983 Base Year Estimate *

Age	1980	1985	1990	1995	2000
10 - 14	1,896	2,108	2,311	2,456	2,606
15 - 19	6,842	7,639	8,513	9,352	9,960
20 - 24	8,816	9,608	10,760	12,026	13,245
25 - 34	14,942	18,204	20,801	23,125	26,001
35 - 44	11,968	12,583	14,496	17,875	20,596
45 - 54	8,287	9,663	10,657	11,328	13,241
55 - 64	4,078	4,919	6,038	7,141	7,980
65+	1,927	2,160	2,484	3,028	3,753
Total	58,756	66,884	76,060	86,331	97,382

* @ December 31st

Source: Proyeksi Penduduk Indonesia 1980-2000, Biro Pusat, July 1983, pg. 44.

Proyeksi Angkatan Kerja Indonesia 1983-2001, Biro Pusat, December 1983, pg. 14-15

Table 4.4

ANNEX I
Table 1.10

INDONESIA
URBAN SERVICES SECTOR REPORT

Historic and Projected Population by Province 1961-2000

Province	Average Annual Growth Rates				Population /a		
	1961-71	1971-80	1980-90 (projected)	1990-2000 (projected)	1960	1990	2000
	.....		% per year			(thousands)	
D.I. Aceh	2.14	2.93	2.49	2.09	2,532	3,325	4,098
North Sumatra	2.96	2.60	2.40	2.10	6,301	10,552	13,023
West Sumatra	1.82	2.21	1.57	1.58	3,390	3,967	4,645
Riau	2.33	3.11	2.80	2.43	2,147	2,841	3,622
Jambi	3.25	4.07	3.13	2.70	1,429	1,955	2,560
South Sumatra	2.21	3.32	2.81	2.40	4,589	6,079	7,731
Bengkulu	2.55	4.39	3.59	3.05	759	1,087	1,475
Lampung	5.82	5.77	4.13	3.26	4,550	6,874	9,528
DKI Jakarta	5.09	3.93	3.58	2.77	6,413	9,170	12,093
West Java	2.05	2.66	1.93	1.81	27,282	33,089	39,643
Central Java	1.70	1.64	1.23	1.02	25,293	28,595	31,669
D.I. Yogyakarta	1.02	1.10	1.72	1.44	2,747	3,263	3,768
East Java	1.55	1.49	1.17	0.96	29,099	32,704	36,010
West Kalimantan	2.07	2.31	2.52	2.16	2,472	3,179	3,945
Central Kalimantan	3.60	3.43	3.25	2.67	946	1,309	1,709
South Kalimantan	1.44	2.16	2.03	1.84	2,054	2,516	3,023
East Kalimantan	2.92	5.73	3.52	2.91	1,195	1,700	2,275
North Sulawesi	2.79	2.31	3.09	2.42	2,104	2,866	3,650
Central Sulawesi	2.82	3.86	3.48	2.86	1,271	1,801	2,398
South Sulawesi	1.37	1.74	2.27	1.91	6,040	7,576	9,174
South East Sulawesi	2.47	3.09	3.22	2.66	935	1,290	1,687
Bali	1.74	1.69	1.45	1.33	2,462	2,846	3,251
West Nusa Tenggara	2.00	2.36	1.82	1.74	2,709	3,251	3,870
East Nusa Tenggara	1.55	1.95	2.25	1.98	2,726	3,415	4,165
Maluku	3.24	2.88	2.92	2.54	1,397	1,870	2,411
Irian Jaya	2.04	2.67	3.50	2.67	1,101	1,563	2,042
TOTAL INDONESIA	2.10	2.33	2.04	1.78	146,003	178,683	212,554

Note: The assumption in this projection is that fertility will fall to replacement levels (i.e. the net reproduction rate (NRR) will be reduced to 1) by 2005 to 2025 (depending on the province) according to existing progress in fertility reduction. Migration patterns are assumed to continue.

/a Mid year populations. For 1980 therefore they are slightly less than the (October 31) census data, figures exclude East Timor.

Sources: 1961, 1971, 1980 Censuses.
Projection from "Demographic Patterns and Population Projections, 1980 - 2000"; World Bank, ibid.

Source: IBRD 1984b, Annex I, Table 1.10.

TABLE 4.5

Inter-Island Distribution of Labor Force, 1980
(000)

	Employment	Unemployment	Economically Active	% Econ. Active	% Unemployed
Sumatra					
Urban	1,407	40	1,447	-	2.8
Rural	8,098	80	8,178	-	1.0
Total	9,505	120	9,625	50.4	1.2
Java					
Urban	7,142	204	7,346	-	2.8
Rural	25,884	360	26,244	-	1.4
Total	33,026	564	33,590	50.8	1.7
Kalimantan					
Urban	390	11	401	-	2.7
Rural	2,062	30	2,092	-	1.4
Total	2,452	41	2,493	53.6	1.6
Sulawesi					
Urban	421	12	433	-	2.8
Rural	2,531	77	2,608	-	3.0
Total	2,952	89	3,041	42.3	2.9
Other.					
Urban	366	8	374	-	2.1
Rural	3,252	46	3,298	-	1.4
Total	3,618	54	3,672	50.5	1.5
Indonesia					
Urban	9,726	275	10,001	-	2.7
Rural	41,827	593	42,420	-	1.4
Total	51,553	868	52,421	50.2	1.7

Source: Population Census 1980, Series S-2, Tables 40.1-40.9.