

A WORLD BANK COUNTRY STUDY

PUB-3586

INDONESIA

Wages and Employment

077-01

0035

Chokel, Bogomir
H R1-001

A WORLD BANK COUNTRY STUDY

INDONESIA

Wages and Employment

The World Bank
Washington, D.C., U.S.A.

Copyright © 1985
The International Bank for Reconstruction
and Development / THE WORLD BANK
1818 H Street, N.W.
Washington, D.C. 20433, U.S.A.

All rights reserved
Manufactured in the United States of America
First printing January 1985

World Bank Country Studies are reports originally prepared for internal use as part of the continuing analysis by the Bank of the economic and related conditions of its developing member countries and of its dialogues with the governments. Some of the reports are published informally with the least possible delay for the use of governments and the academic, business and financial, and development communities. Thus, the typescript has not been prepared in accordance with the procedures appropriate to formal printed texts, and the World Bank accepts no responsibility for errors. The publication is supplied at a token charge to defray part of the cost of manufacture and distribution.

The full range of World Bank publications is described in the *Catalog of World Bank Publications*; the continuing research program of the Bank is outlined in *World Bank Research Program: Abstracts of Current Studies*. Both booklets are updated annually; the most recent edition of each is available without charge from World Bank Publications in either Washington or Paris (see the back cover for addresses).

Library of Congress Cataloging in Publication Data

Lluch, Constantino.

Indonesia--wages and employment.

(A World Bank country study)

Authors for the study are Constantino Lluch and Dipak Mazumdar.

Bibliography: p.

1. Labor supply--Indonesia. 2. Employment forecasting
--Indonesia. 3. Wages--Indonesia. 4. Indonesia--Econom-
ic conditions--1945- . I. Mazumdar, Dipak, 1932- .
II. World Bank. III. Title. IV. Series.

HD5824.A6L58 1985 331.12'5'09598 84-27133

ISBN 0-8213-0484-4

CURRENCY EQUIVALENTS

Before November 15, 1978 US\$1.00 = Rp 415

Annual Averages 1979-83

1979 US\$1.00 = Rp 623

1980 US\$1.00 = Rp 627

1981 US\$1.00 = Rp 632

1982 US\$1.00 = Rp 661

After March 30, 1983 US\$1.00 = Rp 970

FISCAL YEAR

Government - April 1 to March 31

Bank Indonesia - April 1 to March 31

State Banks - January 1 to December 31

Table of Contents

	<u>Page No.</u>
SUMMARY AND CONCLUSIONS	xiii
1. STRUCTURE OF THE LABOR FORCE, EMPLOYMENT AND	
LABOR INCOMES IN 1977.....	1
Educational Attainment of the Population.....	1
Participation Rates.....	2
Males.....	5
Females.....	6
In Sum.....	7
Measured Unemployment in Indonesia.....	7
Duration of Unemployment.....	8
Underutilization of Urban Youth.....	9
Employed Population.....	10
Rural/Urban Earnings Differential.....	13
Appendix A: On Seasonal Changes in the Labor Force Participation Rate.....	14
Appendix B: Data.....	16
2. TRENDS IN THE ECONOMIC DEVELOPMENT OF INDONESIA, 1961-1980:	
EMPLOYMENT, OUTPUT, RELATIVE PRICES AND WAGES.....	29
Growth and Industrial Composition of Employment.....	29
Changes in the Sectoral Composition of Employment, 1961-1971, 1971-1980.....	33
Growth in Output Relative to Employment.....	39
Relative Prices.....	40
GDP Deflators.....	40
Wholesale Price Indexes (WPI).....	41
Retail Prices.....	41
Summary.....	43
Trends in Real Wages.....	43
Agricultural Wages in Selected Villages in West Java (Makali Series).....	43
The Agriculture Wage Series of the Central Bureau of Statistics.....	47
The Wage Series from the Padat Karya Program.....	48
Earnings in Estates.....	50
Wages in the Urban Construction Sector.....	51
Aggregate Trends in Indonesian Development:	
An Overview.....	52

This report is based on the findings of two missions to Indonesia, in March 1980 and June 1982. The main authors are Constantino Lluich and Dipak Mazumdar. Roger Key contributed to the first mission.

Appendix A: On the Estimation of the Labor Force in 1971 and 1980.....	55
Appendix B: Data.....	58
3. THE INDONESIAN LABOR MARKETS: AN INTERPRETATION.....	72
Rural Labor Market.....	72
Labor Utilization in Javanese Agriculture.....	74
The Multiplicity of Market Activities.....	75
Interclass Differences in Market Participation.....	77
Seasonal Variations in Activity.....	78
Patterns of Returns to Labor in the Rural Sector.....	79
"Surplus" Labor and Seasonality.....	82
Technical Change, Commercialization and "Surplus" Labor..	84
Conclusions on Employment Growth and the Rural Labor Market.....	86
The Urban Labor Market.....	86
The Importance of Temporary Migration.....	88
Difference in Earnings of Temporary and Permanent Migrants.....	89
The Wage Ladder in Indonesian Manufacturing Enterprises.....	89
The Census of Manufacturing, 1974.....	90
Manning's Study of Indonesia Manufacturing Wages.....	91
The Mission's Field Data.....	95
Conclusions on the Working of Labor Markets.....	98
The Wage Ladder.....	98
Surplus Labor and the Elastic Supply of Labor.....	100
The Meaning of Surplus Labor.....	100
Elastic Supply of Labor.....	100
Extent of the "Organized Sector" in the Indonesian Labor Market.....	101
Appendix A: Models of the Rural Labor Markets.....	103
The Stylized Facts.....	103
A Neo-Classical Model.....	104
The Segmented Labor Market Model.....	106
Testing the Alternative Models: (i) Predictions.....	107
Predictions (A).....	107
The Rice Labor Market with Two Classes of Workers.....	108
Predictions (B).....	109
Testing the Alternative Models: (ii) Premises.....	110
Notes on the Segmented Labor Market Model.....	111
The Transition from a Surplus Labor to A Neo-classical Model.....	114
Appendix B: Shadow Wages in Java.....	116
The Opportunity Cost of Labor.....	116
The Competitive Model.....	116
The Modification of the Competitive Model.....	117
The Ratio of the Opportunity Cost of Labor to the Agricultural Wage.....	118

The Shadow Wage of Rural Labor.....	120
The Value of M/W at the Peak Season.....	122
4. PROSPECTS FOR EMPLOYMENT, OUTPUT AND WAGES.....	123
Prospects for Real Wages and Employment.....	125
The Overall Growth Record in Indonesia, Japan and Korea.....	126
The Period of Transition in Japan.....	128
The Korean Record.....	133
On the Extensive and Intensive Margins of Cultivation in Indonesia.....	134
Long Term Employment Prospects Under Present Trends...	136
ANNEX A: Long Run Employment Problems in Indonesia:	
Alternative Views, Implications and Tests.....	139
Full Employment.....	140
Accumulation of Skills.....	144
Sectoral Disaggregation.....	147
Summary.....	150
Surplus Labor.....	151
Conclusions.....	154
ANNEX B: References.....	156

LIST OF TABLES

	<u>Page No.</u>
CHAPTER 1	
1.1 Percentages of the Population with More Than a Specified Educational Level by Age, Sex and Location, 1977.....	2
1.2 Labor Force Participation Rates by Age, Sex and Location, Indonesia 1977-78.....	3
1.3 Urban Male Unemployment Rates by Age and Education, 1977...	8
1.4 Rate of Nonemployment of Youth in Urban Areas, 1977.....	9
1.5 Proportion of Each Age-Sex Group Which Is Not Employed by Educational Levels, Urban Indonesia, 1977.....	10
1.6 Percentage of the Total Employed in Each Cell in the Tertiary Sector, 1977.....	11
1.7 Relative Mean Earnings in the Urban Areas (Rural = 100)....	13
APPENDIX A	
IA.1 Seasonal Variation in Labor Force Participation Rates, Indonesia, First Quarter 1976 through Fourth Quarter 1978.....	15
APPENDIX B	
IB.1 Population (in millions) by Region and Location, 1977.....	16
IB.2 Age and Sex Distribution of the Population by Region, 1977	17
IB.3 Age and Sex Distribution of the Population by Region and Location.....	18
IB.4 Educational Attainment of the Population by Age Groups 1977 Urban.....	19
IB.5 Education Attainment of the Population by Age Groups, 1977 Rural.....	20
IB.6 Labor Force Participation Rates by Age, Sex and Location, Indonesia 1977-78.....	21
IB.7 Urban Labor Force Participation Rates by Age and Educational Attainment, Indonesia	22
IB.8 Rural Labor Force Participation Rates by Age and Educational Attainment, Indonesia	23
IB.9 Measured Open Unemployment Rates by Age, Sex and Location, Indonesia 1977-78.....	24
IB.10 Youth Unemployment Rates in Urban Areas by Sex and Educational Attainment in Indonesia 1977.....	25
IB.11 Employment by Main Industry, Hours worked, Sex and Location, Indonesia 1977.....	26
IB.12 Summary Statistics for the Distribution of Monthly Income of Employees from Main Job by Main Industry, Sex and Location, Indonesia 1977.....	27
IB.13 Employment by Main Employment Status, Sex and Location, Indonesia 1977.....	28

CHAPTER 2

2.1	Growth of Population and Population Indonesia and Java 1961-71, 1971-80.....	30
2.2	Labor Force Participation Rates, Indonesia and Java 1961-71, 1976-80.....	31
2.3	Rate of Growth of Employment by Main Industry, Indonesia and Java 1961-71 and 1971-80.....	34
2.4	Increase in Employment and its Distribution by Sex Urban-Rural Location and Main Industry, Indonesia and Java, 1961-71, 1971-80.....	36
2.5	Rate of Growth of Employment by Main Industry and by Sex in Rural Areas Indonesia and Java, 1961-1971, 1971-1980.....	37
2.6	Rate of Growth of Employment by Main Industry and Sex in Urban Areas, Indonesia and Java 1961-1971, 1971-1980.....	38
2.7	Yearly Rates of Output Growth, By Main Industry and Total Elasticity of Employment with Respect to Output, Indonesia, 1961-1971, 1971-1980.....	39
2.8	GDP Price Deflators, Relative to Agriculture, Indonesia, 1961-1981.....	41
2.9	Relative Price Ratios From Wholesale Price Indexes (1973 = 100), Indonesia, 1971-81.....	42
2.10	Rice Price, Relative to Kerosene and Textiles, in Jakarta and the Rural Markets of Java and Madura.....	43
2.11	Average Real Wages per day, by Season, West Java Villages (Kg of milled rice).....	47
2.12	Trends in Agricultural Wage Rates, 1976-81, in Four Provinces of Java (Kg of milled rice per day).....	49
2.13	Wages Paid to Men and Women Workers in the Padat Karya Program (Rp per day).....	50
2.14	Real Monthly Earnings of Permanent Estate Laborers, Java and Sumatra, 1966-80 (in 1971 Rp).....	52

APPENDIX A to CHAPTER 2

II.A.1	Jones Estimates of the 1971 Labor Force Through Direct Adjustment.....	56
IIA.2	Estimate of the 1980 Labor Force through Direct Adjustment (millions of people).....	57

APPENDIX B TO CHAPTER 2

IIB.1	Estimates of Population, Population of Working Age, Labor Force and Employment, by Sex, Location and Region, 1961, 1971, 1980.....	58
IIB.2	Labor Force Participation Rates by Age, Sex and Location - Indonesia 1961, 1971, 1976-80.....	59
IIB.3	Employment Rate by Sex and Location Indonesia 1961, 1971, 1976-80.....	60

IIB.4	Percentage Distribution of Employment by Sex, Main Industry and Location, Indonesia, 1961, 1971, 1978, 1979, 1980.....	61
IIB.5	Percentage Distribution of Employment by Sex, Main Industry and Location, Java, 1961, 1971, 1978, 1979, 1980.....	62
IIB.6	Adjusted Percentage Distribution of Employment and Its Annual Rate of Change Indonesia and Java 1961, 1971, 1980.....	63
IIB.7	Adjusted Percentage Distribution of Employment and Its Annual Rate of Change, Urban Male Indonesia and Java 1961, 1971, 1980.....	64
IIB.8	Adjusted Percentage Distribution of Employment and Its Annual Rate of Change, Urban Female Indonesia and Java 1961, 1971, 1980.....	65
IIB.9	Adjusted Percentage Distribution of Employment and Its Annual Rate of Change, Rural Male Indonesia and Java 1961, 1971, 1980.....	66
IIB.10	Adjusted Percentage Distribution of Employment and Its Annual Rate of Change, Rural Female Indonesia and Java 1961, 1971, 1980.....	67
IIB.11	Cost of Living Index In Jakarta: Food and Clothing (April 77/March 78 = 100).....	68
IIB.12	Rural and Urban Prices of Rice, Kerosene and Textiles 1971-81.....	69
IIB.13	Daily Wages for Unskilled and Skilled Workers in the Construction Industry in 1971 Rupiah, 1971-78.....	70
IIB.14	Construction Wages for Daily Paid Unskilled and Skilled Workers by Province, 1976-79 - Base 1976 I.....	71

CHAPTER 3

3.1	Percentage of Household Working Hours, 1975-76.....	76
3.2	Distribution of Permanent and Temporary Migrants by Employment in Formal and Informal Sectors (14 survey villages, 1973).....	89
3.3	Mean Hourly Wages by Several Firm Characteristics (All Firms and Weaving, Operator 1).....	92
3.4	Hourly Earnings of Operatives (Mean) (Rupiah).....	93
3.5	The Indonesian Wage Ladder, 1976.....	99

CHAPTER 4

4.1	Projected Employment Growth By Sectors.....	124
4.2	Output and Employment Growth By Sector Indonesia Japan, and Korea	127
4.3	Marginal Employment Shares during the Japanese Transition..	129
4.4	Labor Use in Japanese Agriculture.....	132
4.5	Sectoral Allocation of Additional Employment in Korea.....	134

4.6	Ratio of Farm Land to Agricultural Employment, in Indonesia, Japan, and Korea	135
4.7	Paddy Yield per Hectare and Labor Input per Hectare in Asian Agriculture.....	136

ANNEX A

A1	Yearly Output and Employment Growth Rates, 1971-1980.....	139
A2	Yearly Percentage Increase in the Average Rate Wage for Different Rates of Substitution and Technical Progress.....	143
A3	Rate of Growth of Skilled Wage Times their Share in the Labor Bill in (3).....	146
A4	Yearly Percentage Increase in Wages in Terms of Sectoral Output for Different Rates of Substitution and Technical Progress.....	149

LIST OF FIGURES

CHAPTER 1

- 1.1 Male/Female Labor Force Participation Rates, Indonesia,
1977/78..... 4

CHAPTER 2

- 2.1 Changes in Peak Season Real Wages. 1966/67-1979/80 for Male
(Hoeing) and Female (Weeding) Labor in the Wet Season in
Six Villages of West Java (Kg of milled rice
per day)..... 45

CHAPTER 3

- 3.1 A Neoclassical Model of the Rural Labor Market..... 105
3.2 The Rice Labor Market with Two Classes of Workers..... 107
3.3 The Wage Efficiency Relationship..... 112

CHAPTER 4

- 4.1 Real Wages in Agriculture (W_a) and Non-agriculture (W_n)
[Minani (1967), p. 1974 (1934-36 = 100)..... 130

ANNEX A

1. Moving Equilibrium in the Labor Market: Full Employment
in a One Sector Model..... 142

SUMMARY AND CONCLUSIONS

Introduction

1. This report is part of the Bank's on-going assessment of wages and employment in Indonesia. The last specialized report 1/ examined labor markets and income distribution through 1976. The present report, focusses solely on labor market conditions (resource constraints prevent an in-depth review of the associated factors of poverty and income distribution). The data base includes the quarterly labor force surveys of 1977, 1978 and 1979, as well as the preliminary results of the 1980 Population Census. According to the latter, Indonesia's population grew by 2.3% per year during the seventies instead of the predicted 2%. Consequently additions to the labor force are expected to total some fifteen million people over the next decade, as opposed to twenty-five million in the last two decades. It is thus imperative to monitor and evaluate labor markets and the factors which affect them on a regular basis.
2. Another factor which adds to this urgency is the expected deceleration of output growth in the eighties. How employment and incomes will be affected by a rapidly expanding supply of labor, combined with a slower growth in output and vary with alternative assumptions about how labor markets work. In turn, such alternative views have very different implications for policy formulation. A primary objective of this report is to point out these implications and to promote further study of labor markets in Indonesia, including a fresh examination of labor use and labor incomes, particularly in rural areas of Java.
3. The previous report took the view that labor markets in Indonesia work efficiently. Given observed wage variations (over time and across regions) and labor mobility, it concluded that, on the whole, supply and demand forces provide an adequate explanation of the level and the structure of wages and employment, and thus, there was no long run, or structural unemployment in Indonesia. Those who supply labor services were bidding wages down to the level where everyone was employed, at a wage which reflected labor productivity and the cost of effort, at the margin. Wages were low, but this was the result of a lack of complementary inputs (capital, skills) rather than the market's failure to reflect the "opportunity cost" of labor - the wage that workers, could get at the margin, in alternative occupations. In addition, the previous report also suggested that observed wage differentials probably resulted from differences in the quality of labor supplied.
4. In the above context, there would be no employment problem per se in Indonesia, and no need for separate policies specifically aimed at employment creation. Also, public investment projects (particularly in rural Java) should be appraised using a price for labor close to the going market wage, i.e. the ratio of shadow to market wages would be near unity.

1/ World Bank (1980), 2788-IND.

5. This report takes a different view. First, it casts doubt on the explanation that wage differentials in urban labor markets reflect differences in the quality of labor. A wage ladder is constructed for unskilled labor, and observed wage differences appear too high to be explained by differences in quality within the unskilled labor category. Second, it suggests that low participation rates by young and old males in urban areas, coupled with high unemployment rates for urban youth, add up to a substantial underutilization of young people, particularly the educated, and cannot be explained by models of unemployment highlighting transitional job search. Third, the report argues that social and economic forces, which do not promote a clearing of the labor market, play a large role in the determination of wages. The variability of wages in terms of rice, over time or across villages occurs within a narrow band which is stable over time. The constancy of the agricultural wage within this band in Indonesia is similar to stable agricultural wages observed in Japan and Korea before the exhaustion of surplus rural labor. This report proposes, as a working hypothesis, that labor is in surplus in many Javanese villages: at the going wages there are more people able and willing to work in rice cultivation than can be employed, both during peak and off seasons. In the rural rice labor market, as in urban labor markets, there are mechanisms that prevent such surplus labor from bidding down wages.

6. These three characteristics of Indonesian labor markets have important policy consequences. They highlight the need for policies which address the anticipated fast growth of the labor force and the prevalence of relatively low labor productivity. This report thus points to the need to consider employment creation as a separate policy objective (as opposed to subsuming it under policies promoting maximal output growth). Also, it follows that the appraisal of public investment projects (particularly in rural Java) should not price unskilled labor at the going market wage in rice cultivation, but at the lower return observed in marginal activities down the economic ladder.

7. The evidence supporting this report's interpretation of the labor market comes mainly from village studies, and the labor force surveys. Village studies are of central importance to advance knowledge on the evaluation of the Javanese economy, in particular. The report attempts to use the evidence from those studies to interpret the overall trends in employment and output from aggregate data. This attempt should be pursued further.

Unemployment, Participation Rates and Education

8. Chapter 1 provides an overview of open (i.e., measured) unemployment in Indonesia. As in many developing countries, this is a problem in urban areas, particularly among young people. Measured unemployment rates are 3 to 4 times higher in the urban than in the rural sector. Within the urban sector it is 25% for males aged 15-19 and 18% for males aged 20-24 (compared to an overall male urban average of about 7%).

9. However, measured unemployment does not adequately reflect the real difficulties encountered by urban youth in Indonesia in getting jobs. According to the labor force surveys, among those who declared themselves to be unemployed, the duration of unemployment was not long, mostly one month or less. In contrast, the sluggishness of entry into the urban labor market is revealed quite strikingly by the high rates of nonparticipation among the urban youth. It would then appear that young people do not actively search for jobs until they feel that an acceptable job is likely to be available in the near future. Participation rates were 34% for urban males aged 15-19 and 75% for those aged 20-24. For females the corresponding rates were 23% and 29% respectively - substantially lower than what is observed in the rural sector. The magnitude of the problem can be understood by noting the statistic that even in the age group 20-24, 40% of urban males, and 76% of urban females were not employed (i.e. either unemployed or not in the labor force). SAKERNAS data on the occupation of nonparticipants show that as much as 20% of urban males in this age group said that they were attending school, while the official tertiary enrollment rate at this date (1977/78) was only 2%. Thus it appeared that many nonparticipants were really discouraged workers who were using nonformal education to excuse their inactivity.

10. A question of some importance is the relationship of underutilization of urban youth to educational expansion in Indonesia. It is clear from the data presented in Chapter 1, that the incidence of both open unemployment and nonparticipation increases with educational levels, after controlling for the age group. The participation rate of urban males between 20-24, for example, is around 60% for those with secondary education and around 90% for those with primary education. It should be remembered in this connection, that secondary schooling should be finished well before the age of 20, and in fact, that such a late age for finishing school is itself an aspect of the lack of job opportunities for young people. Figures on open unemployment rates reveal that a sizeable proportion of the labor force with secondary education is still searching for a job in their late twenties. At the same time, there are shortages for specific categories of educated labor e.g., technical workers needed in agriculture. Evidently, more research is needed to identify areas of shortages and potential surplus within the educational spectrum.

Overall Trends in Output, Employment and Wages, 1961-80

11. The report contains comprehensive aggregate data on the growth of the Indonesian economy over the periods 1961-71 and 1971-80. Particular emphasis is given to the rate of growth of employment (measured by the number of employed persons). Using the best available information, this is estimated at 2.9% per annum during 1971-1980, up from 2.4% during the sixties. These rates fall within the lower end of plausible growth rates given in the previous employment report by the World Bank. In contrast, previous Bank

economic reports have taken the highest rate in that interval, 4.7%. ^{1/} While the estimate given here is subject to revision as information from the 1980 Demographic Census is more fully analyzed, it would seem that 4.7% is implausibly high. The acceleration in employment (and labor force) growth during the 1970s is associated with an increase in the proportion of the working age population, rather than an increase in labor force participation rates.

12. The growth of output (7.3% per annum) was well above this revised growth rate for employment throughout the last decade. But an examination of real wage trends in the few organized sectors for which data could be obtained - agriculture, plantation and construction - suggests that real wage for unskilled workers were constant over much of this period, despite rapid output growth.

13. The report focusses on the issue of rapid growth in output at constant wages as one of the major characteristics of Indonesia's macro-economic expansion. One possible explanation of this phenomenon within the framework of competitive labor markets and market clearing wages is that the growth of "true" employment (employment measured in terms of efficiency units, after adjustments for skill accumulation, rather than in terms of employed persons) exceeds measured employment growth. Another is that labor saving technical progress has been sufficient to permit fast output growth with constant wages. These possibilities are examined in Annex A to this report. The conclusion from the formal analysis on the first point is that allowance for skill accumulation does not change the overall picture. The numerical results derived from the growth model with technical progress indicate the specific assumptions about the parameter values which would make the observed rate of output growth compatible with constant wages over time.

14. The report proposes that a framework based on the availability of abundant labor at the going wage rates in the major sectors of the economy (including paddy cultivation) would be useful for interpreting the observed trends in productivity and wages in the economy. But, unlike some early versions of the surplus labor model, we cannot accept the hypothesis that labor is in perfectly elastic supply at a wage geared to the average productivity of labor in agriculture. Within the agricultural sector, output grew at an annual rate of 3.6%, significantly above the rate of growth of

^{1/} See World Bank (1979), 2093-IND and World Bank (1980), 2788-IND. In World Bank (1981), 3307-IND, the quoted employment growth rate is 3.3% per year. In World Bank (1982) 3795-IND, page 95, the rate estimated is 2.65%.

employment in this sector (1% per annum). ^{1/} The report uses some intensive micro-studies of Javanese villages to examine rural labor markets, and suggests some hypotheses about the determination of agricultural wages. This attempt to link a micro view of the labor market (in Chapter 3) with the macro picture of the economy (in Chapter 2) is only a preliminary effort. Much more work is required on village studies and data collection. Some of the more specific points for further investigation are indicated at the end of this summary.

The Working of Indonesian Labor Markets: An Interpretation

15. The two major stylized facts highlighted by the village micro studies in Java are the following:

- (a) The number of manhours spent in the major agricultural labor market - rice - is only a small part of the total labor time supplied to the market even by landless households. ^{2/} Typically, the proportion of total labor time utilized in agricultural wage labor is 30-40% for landless workers. The rest of the labor time is devoted to a variety of activities in trade, services, handicrafts, and sometimes to nonagricultural wage labor outside the villages.
- (b) The returns to labor (per manhour) are substantially lower in activities outside the rice labor market. Field studies suggest that this could be on the order of 30% of the prevailing wage rate in rice for similar age/sex groups. Because of the lower return to labor in miscellaneous (largely selfemployed) activities, they are categorized in the following pages as the "marginal sector." Obviously, a larger proportion of time is devoted to marginal

^{1/} Excluding mining from consideration, the overall rates of growth of output and employment respectively were as follows: agriculture (3.5, 1.0); secondary (12.9, 4.9); tertiary (8.3, 6.1). The secondary sector includes manufacturing, construction, transport and public utilities. The tertiary sector includes trade and services. The percentages of total employment at the end of the period in the three sectors were 56, 15 and 29 respectively.

In the World Bank Report (1981) 3182-IND, Annex 1 p. 35 employment in large and medium manufacturing firms is reported to have grown between 6% and 12% over the 1970s. But these firms covered only 13% of total manufacturing employment in 1974/75.

^{2/} Here, and in the rest of the report "rice" is used as a generic term for the productive agricultural sector which makes extensive use of wage labor. It includes plantation crops, as well as important nonrice crops in the peasant economy like sugarcane.

activities in the slack season; but even in the busy season of paddy cultivation these activities consume a significant portion of labor time for adult men and women workers. This is partly because rice labor markets are specific to individual villages, and in any particular village, peak demand for labor for rice cultivation is confined to days rather than months. More work is required on the seasonal difference in returns to labor between the rice sector and marginal activities. Not all the field studies report the extent of the differential by season, but the differential seems to appear only in studies which are confined to the peak season. ^{1/}

16. Surplus labor can thus be said to exist in rural Java in the limited and particular sense that there is a pool of labor units (rather than laborers) in marginal activities with earnings per hour significantly less than the rice wage rate. The macro-economic significance of this labor market model is that this pool is potentially available to the rice sector at the prevailing (higher) rice wage. Given this perfectly elastic supply of labor to the rice sector, output per worker can increase in rice over a period of time without any pressure on wage rates even in the absence of labor saving technical changes. The question arises: why do profit seeking landowners pay labor working in their fields a higher wage than workers earn in the marginal activities? The answer probably lies in the wage efficiency relationship i.e., the incentive effect of high wages on the intensity of effort of workers. Starting from a low return to self employed labor in marginal activities, a worker's efficiency increases more than proportionately as the wage offered increases, up to a point of inflexion, after which efficiency increases less than proportionately. Thus, there is a wage level - higher than the return to labor in marginal activities - at which wage cost per unit of labor (in efficiency units) is minimized from the point of view of employers. No profit maximizing employer will offer a wage lower than this, even if there is an abundant supply of labor at this wage. It might appear from this argument that the higher wage is in fact established to attract more efficient labor. But the crucial point is that the direction of causation runs from wage to efficiency, rather than the reverse. At a higher wage (up to the point of inflexion) more or less everybody who is offered a job performs at a proportionately higher efficiency. Since there is an abundant supply of labor at the floor wage which (minimizes wage cost), employers must select some workers more favorably than others. The field studies in rural Java have consistently mentioned the importance of the social network system which establishes preferential hiring rules for workers utilized in the rice sector.

17. It has already been mentioned that rural labor markets in Java (as in other Asian countries) are village specific. Thus, the efficiency wage which establishes the floor wage in agricultural operations, is tied to the

^{1/} In most village economies there will, in part, be a range of earnings in both rice and marginal activities. The two-tier model with different mean earnings is a stylized fact which underlines the importance of marginal activities as a reservoir of "surplus" labor.

norm for the particular village and reflects its economic conditions. Intervillage variations in agricultural wages for the same season or occupation are observed in the rural sector. Thus, the constancy of the real wage over time means that the band of wage rates for a particular occupation has not moved perceptibly upwards, in spite of the increase in output per worker. We do not expect an upward movement of the band until the demand for agricultural labor growth at a sufficiently high rate, relative to the supply, to cause a significant reduction in the pool of labor working in marginal activities.

18. The urban and rural labor markets are linked by two different types of migrants: the circular migrants who move temporarily in and out of towns without their families; and more permanent migrants who come to the urban areas with their families. The circular migrants are found largely in the informal sector of the urban labor market and, although data on earnings in this sector are very poor, we can expect circular migration to keep returns to labor in the urban informal sector and in the rural marginal activities to be reasonably close, after allowing for cost-of-living differences and transportation costs. Outside the informal sector, the wage-efficiency relationship can be expected to hold for urban wage employment as much as for hired labor in agriculture. In fact, a reasonable hypothesis is that the relationship between wages and efficiency will be stronger, the larger the employment size and the more complex the organization of the hiring unit. It has been observed in many developing countries (including Japan during its period of development) that unskilled manufacturing wages increase with the size of the firm, even in the absence of trade unions or government legislation. Indonesia is no different from the general pattern of urban wage behavior. Evidence is presented in Chapter 3 that there is a wage ladder for unskilled workers in urban manufacturing with nonmechanized small firms at the lower rung, and the "joint venture" firms or multinationals, at the top. The wage spread between these two is as much as 250%.

The Shadow Wage

19. The above labor market model implies that the shadow wage for rural projects should be calculated on the basis of the opportunity cost of employing a unit of unskilled labor, namely the return to labor in marginal rural activities. Field studies suggest that in Java the latter can be as low as one third of the agricultural rice wage. Taking into account the social cost of increased consumption by the representative rural household supplying the labor, the shadow wage was calculated to be 28% of the agricultural wage. As discussed below, and in the body of the text, this statement has to be qualified by the fact that seasonal earnings data are still very scant in Indonesia.

Prospects for Employment and Wages

20. On the basis of historical trends the report projects the labor force to grow by some 2.6% per annum through 1990. Will this incremental labor be absorbed by increased demand over the next decade, and at what wage level? This is the central question regarding the prospects for employment

growth in Indonesia. This report has utilized the concept of the turning point (related to the exhaustion of a "surplus" of labor, as defined in p.11) in examining the prospects for Indonesian employment.

21. Historical evidence for two Asian rice economies - Japan and Korea - reviewed in Chapter 4 shows that both economies had a period of sustained growth of output per worker in agriculture, with little or no growth in real wages in this sector. This period of growth at nearly constant wages (in agriculture) was prolonged in the case of Japan (50 years or more) with output per worker increasing only at a moderate rate, and substantially shorter for Korea with much faster growth of agricultural productivity during the period of transition to the turning point. But in both cases, the turning point is identified as an historical fact, a clearly recognizable "kink" in the time trend of real agriculture wages. After a relatively long period during which real wages grew very slowly, wages increased six to ten times faster than previously observed.

22. The welfare significance of the turning point is that before this point is reached, the share of output going to wages falls consistently because labor productivity is growing faster than wages. Since mechanization is not a major factor in Asian agriculture before the turning point, much of the difference between labor productivity and wages is reflected in an increase in the share of rents and profits. A second important aspect of the "trickling down" of the increase in agricultural productivity is whether the economy is on a growth path which may soon reach the turning point. If the economy is in such a period of transition, a larger proportion of the labor of workers who depend on agriculture as their primary occupation, will be diverted from marginal activities to agriculture. With hourly earnings higher in the latter, income per worker will increase over time even though wage rates are constant in agriculture. Also in the period of transition, both countries surveyed in Chapter 4 - Japan and Korea - saw a strong diversion of labor from agriculture to manufacturing where wages were higher (with the absolute number of workers in agriculture actually declining during parts of the period of transition). Such reallocation of labor also increases earnings per worker over time for the economy as a whole, up to the turning point, even with constant real wage rates in the individual sectors.

23. The evidence presented in this report suggests that Indonesia has not yet passed such a turning point. There is no evidence of any substantial upward pressure on real wages, in spite of a significant increase in output per worker in agriculture over the last decade. But is there any evidence that Indonesia (or more specifically Java) has been on a growth path which is bringing the economy nearer to the turning point? The evidence on this question is much more difficult to evaluate. We do not have data on the number of hours worked in agriculture and in marginal activities for workers whose primary activity is agriculture. This, we do not know if the proportion of labor devoted to agriculture has been decreasing over time, which would occur if the economy were approaching the turning point. But confining our attention to the major occupation of the labor force, we observed that the major source of additional employment for the growing labor force has been tertiary activities. The peculiarity of Indonesian economic growth in the

last decade has been the relative insignificance of manufacturing in providing additional employment, while the annual growth of workers primarily dependent on agriculture has grown substantially. This pattern of change in the sectoral allocation of labor over time is in marked contrast to the historical experience of Japan and Korea during their periods of transition, up to their turning points. In Indonesia the ratio of incremental tertiary employment to that in manufacturing has been 4:1, while in the two "successful" rice economies it was between 1:1 and 2:1. Similarly, Japan and Korea had significantly higher outflows of labor from agriculture even with substantial output growth in this sector.

24. The comparative historical survey suggests that the Indonesian growth path in the last decade is not leading towards the turning point. There are, however, two points which might reduce the strength of this conclusion. First, Indonesia, unlike the other countries, is an oil-rich economy, and the multiplier effect of public sector spending (financed by oil revenue) might be particularly strong on employment creation in tertiary activities. Secondly, there is the possibility that Indonesia is farther away from the extensive and intensive margins of cultivation than the other economies, so that there is more scope for the productive absorption of labor in agriculture.

25. Both these points merit further enquiry. This report cannot give definitive answers on the basis of existing data. Regarding the first point, there is a strong presumption that the large inflow of resources via the oil sector directly and indirectly led to a very high growth in incomes; once terms of trade effects are taken into account, national incomes rose at about 10% per annum in the 1970s - and this would certainly have led to a very bouyant demand for services. However, the final impact on the labor market is not clear. It has already been mentioned that more data - both static and intertemporal - on labor earnings in the tertiary sector are urgently needed. A study of the trends in relative earnings in the tertiary sector and its important subgroups would help to reveal whether labor was "pushed" into this sector by the of lack of opportunities in other sectors. For the moment the report can only draw attention to the ratio of the increase in tertiary employment compared to manufacturing employment in Indonesia, which is extraordinarily high compared not only to Japan and Korea during their periods of transition, but also to other developing countries. However, it is clear that the past pattern of growth will not be repeated in the future, given current prospects for the international oil market. Even if labor was being pulled into service activities by higher wages in the 1970s, this may not occur in the 1980s. There appears to be little or no growth in GDP in 1982 and 1983, and, even with an effective program of structural adjustment to restore medium term growth, overall output for the decade may increase by little more than 5-6% per annum. On the basis of past trends in sectoral labor absorption, this would imply employment growth of only 2% per annum, compared with a labor force growth of 2.6%. In the absence of compensating policies, this would indicate a serious weakening in labor market prospects.

26. Turning to the question of extensive and intensive margins of cultivation in Java, data in Chapter 4 show that the land-man ratio (i.e., the

ratio of farm land to the agricultural labor force) was substantially lower in Java in 1971, than it was in Korea in the 1960s, or even in Japan through much of its period of transition since the turn of the century. Available farm studies also show that labor input, measured by man-days per hectare (along with yield of paddy per hectare), was higher in Java in 1971 than in Korea during the 1960s. It would appear that, although there might still be some isolated areas in Java in which the addition of more labor could increase productivity and farm profitability, the country as a whole is more intensively cultivated than the other two rice economies during their periods of transition. The report (in Chapter 4) also discusses some calculations, based on typical labor-land coefficients in Java regarding the most important crops grown there in 1979. On very conservative estimates, labor requirements in Javanese agriculture were some 20% below the available supply of farm labor (assuming each worker contributed 200 man-days per hectare). This is consistent with the data from field surveys quoted earlier, which indicated that a considerable portion of labor by agricultural workers is devoted to marginal activities. There are two other relevant questions: (i) how long could the 3.6% annual growth of agricultural output observed during the last decade in Java be sustained; and (ii) will the labor saving practices observed in parts of Java, along with the increased commercialization of agriculture, become more widespread, thus reducing the demand for labor?

Policy Implications

27. The report casts considerable doubt on whether employment growth in the 1970s in the Indonesian economy has been moving on a path that would eventually lead to the turning point. With the likelihood of lower oil sector incomes and, thus, lower overall growth, for the remainder of the 1980s, the prospects for labor absorption are gloomy, based on past trends. The policy presumption that follows from this is that measures should be taken to give a more labor-intensive orientation to the growth process. This is a difficult subject, which this report, with its main focus on the analysis of the existing labor markets and trends over time, is not fully equipped to answer. However, some policy implications of the basic conclusion can be outlined.

28. The level and pattern of public expenditure can have a major influence on labor demand. In the short run, labor-intensive public works such as local infrastructure under the INPRES programs, make a direct contribution to employment, and can also channel income toward relatively poor rural areas, with indirect employment creating effects. Maintaining these activities will be of particular importance in the next two to three years when the Government is introducing other expenditure-reducing measures to bring down the external deficit. This will involve expenditure-switching within the public investment program, away from import-intensive activities to relatively labor-intensive ones. In May 1983, the Government announced a major rephasing of large-scale public investment projects, with the rupiah savings to be reallocated to expenditures with a high domestic employment content.

29. Labor absorption by agriculture was low in the 1970s relative to output increases, but its overall weight in employment means that its performance will be critical to the overall labor market. In the 1980s, it is likely that greater diversification away from rice production, to activities such as horticulture, some secondary food crops, small-scale livestock and fisheries, will be necessary to maintain past growth rates of about 4% p.a., and also to provide new employment. In addition, official and spontaneous transmigration to the Outer Islands could have a major impact. At the present rate of about 100,000 families per year, around a fifth of the incremental labor force on Java could be absorbed by this mechanism.

30. Policies relating to the manufacturing sector will play an increasingly important role in the next decade and beyond. As discussed in Chapter 4, this sector historically has been a major source of labor absorption in successful rice economics. Indonesia has been unusual in that this sector has accounted for an extremely small part of total employment and most of this has been in small-scale rural industries. Some reorientation in the policy environment will be necessary to encourage labor absorption. In particular, Indonesia is already near the limits of import-substitution in the labor-intensive consumer goods industries, and, apart from relatively sluggish growth in final demand, further increases in production for the domestic market will have to come largely from the much more capital-intensive producer goods industries. This underlines the need for industrial policies which emphasize export orientation, especially for consumer goods, through measures to reduce the existing import-substitution bias and specific export promotion measures. The development of the small-scale manufacturing sector may also be cause for concern, since there is the possibility that this may suffer declines in output through competition from the more productive medium- and large-scale sectors. This report did not attempt to study measures to support small industries, or the costs of protecting labor-intensive subsectors. Future analysis on this subject should focus attention on the large wage differential that exists between small- and large-scale enterprises, as discussed in Chapter 3. There may be an economic choice between employing a small number of workers at a relatively high wage, and a large number at a lower wage.

31. Finally, factor market prices do not give the correct guidance to determine labor intensity in specific investment projects. It will be necessary to develop policy instruments to compensate for this. The appropriate use of the shadow wage in public investment project appraisal has already been mentioned as one such instrument. A point of some importance might be stressed in this connection. In practice, project appraisal studies usually shadow price labor at a fairly late stage in the decision-making process, when the choice between alternatives is only marginally affected by the appropriate accounting price of labor. Thus, direct consideration of sector-specific alternatives must supplement the use of the shadow wage if wider importance is to be given to a labor-intensive strategy of development.

32. An equally important factor - and empirically it might be more significant - which causes market prices to give the wrong signal to the choice of techniques is the underpricing of capital, at least in some major areas of the economy. For example, tractorization might appear to be profitable at existing market prices, but may not be socially productive if appropriate accounting prices for labor and capital were used ^{1/}, unless specific investigations reveal pockets of labor scarcity in particular areas.

Further Work on Employment and Labor Incomes in Indonesia

33. Although the report emphasizes that a model of the labor market based on a hypothesis of surplus labor in the rural sector (and the associated idea of the productive rice sector being a privileged sector from the point of view of job seekers) is directly relevant to understanding Indonesian development, it does not conclude that this model has been definitively tested and verified. Further work and testing of alternative labor market models need to be done, both at the micro and macro level. Appendix A to Chapter 3 presents theoretical ideas on alternative micro models of the rural labor market, and discusses how far existing empirical data can be used to support the "surplus" labor model. The Annex to this report explores whether the broad macroeconomic trends in Indonesian development fit the framework of aggregative neoclassical models, and it also seeks to establish ranges of values for key parameters which are consistent with actual experience. The relevance of the alternative surplus labor model for the interpretation of macro trends is studied in this context.

34. The report recommends further empirical work to observe directly the workings of labor markets. With respect to labor markets in rural areas, the following are important areas for investigation.

(1) The demand for labor in Javanese agriculture depends upon the nature of the busy season, as compared to the slack season. How long is the busy season, and how does it affect different aspects of the labor force? What is the proportion of labor time devoted to the productive (rice) sector and to marginal activities, for significant age-sex groups distinguished by economic status? Are earnings per hour in marginal activities substantially lower than in the rice sector for the busy season, as they are for the year as a whole? Much information on many of these questions is already available in completed village studies, but either it has not been analyzed or it is not compiled in a form suitable for answering these questions. A more careful study of the micro data already collected for individual villages is, therefore, a task of high priority.

^{1/} See Rudolph S. Sinaga, "Implications of Agricultural Mechanization for Employment and Income Distribution," Rural Dynamics Study Series, No. 2, Bogor.

(ii) Clearly, regional or even village-to-village variations in labor market conditions are of substantial importance in Java, as in all rural Asian societies. Some villages may indeed fit the surplus labor model more than others. Attention should be firmly fixed on this point in the further analysis of village-level data. Even if detailed village studies are not available in sufficient number, a cross section analysis of intervillage variations of wages in selected occupations, and their relationship to the underlying economic conditions in the villages would probably be quite revealing.

(iii) At the macro level, the report emphasizes the need to study more series on wage rate movements, particularly in agriculture. Again, the importance of analyzing trends in wages and employment on a regional basis cannot be overemphasized. Data from the 1980 Census should provide a wealth of information on regional employment trends during the 1970s when used in conjunction with other sources of statistics including the 1971 Census.

(iv) An equally important area of information is the level and trends in earnings in the very large informal sectors, particularly in service activities. While a fuller analysis of existing household surveys would shed more light on this issue the prevalence of multiple occupations in Indonesia, particularly in the rural sector, requires some careful formulation of questionnaires for future household surveys. An attempt should be made to collect information on hours worked and income earned in the different activities pursued by workers, instead of confining the inquiry to the major activity of the respondent.

(v) It is also important to go beyond the linkage among wages, employment and output as discussed in this report. For example, land and credit are key factors, but the present data and state of knowledge have precluded a systematic consideration of the links among markets for factors of production (land, capital, labor) and the role that credit and finance, in a broad sense, play in those links. Gathering further statistical information at the village level, which this report recommends, should be done with a view to facilitating studies on the linkages among markets for factors of production and the role of credit.

RESUME ET CONCLUSIONS

Introduction

1. Le présent rapport fait partie de l'évaluation permanente, par la Banque, des salaires et de l'emploi en Indonésie. Le dernier rapport spécialisé ^{1/} étudiait les marchés du travail et la répartition des revenus jusqu'en 1976. Il n'est question ici que des conditions des marchés du travail (il n'a pas été possible, par suite de contraintes financières, d'examiner de manière approfondie les facteurs connexes que sont la pauvreté et la répartition des revenus). Les enquêtes trimestrielles de 1977, 1978 et 1979 sur la main-d'oeuvre ainsi que les résultats provisoires du recensement de la population de 1980 ont servi de données de base. Ce dernier recensement indique que la population de l'Indonésie a augmenté de 2,3 % par an au cours des années 70, et non de 2 % comme prévu. Ce sont donc une quinzaine de millions de personnes qui devaient venir grossir les rangs de la main-d'oeuvre au cours de la prochaine décennie, alors que l'augmentation avait été de 25 millions pour les deux dernières. C'est dire combien il est impératif de suivre et d'évaluer en permanence les marchés du travail ainsi que les facteurs auxquels ils sont soumis de façon cyclique.

2. La tâche est d'autant plus urgente qu'on annonce un ralentissement de la croissance de la production au cours des années 80. Les effets que peut avoir sur l'emploi et les revenus la conjonction d'une offre de main-d'oeuvre en expansion constante et d'un ralentissement de la croissance varient selon l'idée que l'on se fait de la manière dont fonctionnent les marchés du travail. Les conséquences seront très différentes au niveau des mesures à prendre, selon l'hypothèse retenue. Préciser ce que pourraient être ces conséquences et promouvoir l'étude des marchés du travail en Indonésie, notamment par un nouvel examen de l'utilisation et du revenu de la main-d'oeuvre, en particulier dans les zones rurales de Java, tel est, essentiellement, l'objectif du présent rapport.

3. Le point de vue adopté dans le rapport précédent était qu'en Indonésie les mécanismes des marchés du travail fonctionnent bien. Vu les variations de salaire observées (dans le temps et selon les régions) ainsi que la mobilité de la main-d'oeuvre, il concluait que, dans l'ensemble, les forces de l'offre et de la demande expliquent assez bien le niveau et

^{1/} Banque mondiale (1980), 2788-IND.

la structure des salaires et de l'emploi et que, de ce fait, l'Indonésie ne connaissait pas de chômage permanent ou structurel. Les fournisseurs de main-d'oeuvre faisaient, par le jeu de la concurrence, baisser les salaires jusqu'au niveau du plein emploi, et ce salaire représentait, à la marge, la productivité de la main-d'oeuvre et le coût de l'effort. Les salaires étaient bas, mais cela s'expliquait par l'absence de facteurs de production complémentaires (capitaux, compétences) et non par le fait que le marché ne reflétait pas le coût d'opportunité du travail, à savoir la marge de salaire entre diverses occupations possibles. En outre, le rapport précédent laissait entendre que l'éventail des salaires observé correspondait vraisemblablement à des différences dans la qualité de la main-d'oeuvre fournie.

4. A ce compte là, il n'y aurait pas à proprement parler de problème de chômage en Indonésie et il n'y aurait donc pas lieu de prendre des mesures spécialement destinées à créer des emplois. De même, les projets d'investissement de l'Etat (notamment dans les zones rurales de Java) devraient être évalués sur la base d'un coût de la main-d'oeuvre proche de son prix de marché, c'est-à-dire que le rapport des salaires de référence aux salaires du marché devrait être proche de l'unité.

5. Tel n'est pas le point de vue adopté ici. Tout d'abord, le présent rapport met en doute l'idée selon laquelle les différences de salaires, sur les marchés urbains du travail, correspondraient à des différences dans la qualité de la main-d'oeuvre. Il établit une échelle de salaires pour la main-d'oeuvre non qualifiée, et l'éventail des salaires observé paraît trop ouvert pour pouvoir s'expliquer par des différences de qualité dans cette catégorie de main-d'oeuvre. Ensuite, la conjonction d'un faible taux de participation des jeunes et des vieux travailleurs dans les zones urbaines et d'un taux de chômage élevé parmi les jeunes des villes aboutit, selon le présent rapport, à un sous-emploi marqué des jeunes, des plus instruits en particulier, et ne peut s'expliquer par des modèles de chômage qui font une grande place à la recherche d'un travail de transition. En troisième lieu, les forces économiques et sociales qui ne favorisent pas l'équilibre de l'offre et de la demande de main-d'oeuvre sur le marché du travail jouent un grand rôle dans la détermination des salaires. La variabilité des salaires exprimée en valeur riz, soit dans le temps, soit d'un village à l'autre, se situe dans une étroite fourchette qui demeure stable. La stabilité du salaire agricole à l'intérieur de cette fourchette rappelle celle des salaires agricoles observée au Japon et en Corée avant l'épuisement de l'excédent de main-d'oeuvre rurale. L'hypothèse de travail adoptée ici est qu'il existe un excédent de main-d'oeuvre dans de nombreux villages de Java : aux salaires actuels, l'offre de main-d'oeuvre capable et désireuse de s'employer à la culture du riz est supérieure à l'offre d'emploi dans ce secteur, tant en période de campagne qu'à la saison creuse. Tout comme dans les villes, le marché de la main-d'oeuvre, dans les campagnes rizicoles, comporte des mécanismes qui empêchent cet excédent de main-d'oeuvre de faire baisser les salaires.

6. Ces trois caractéristiques des marchés du travail en Indonésie ont d'importantes conséquences au niveau des décisions à prendre. Elles mettent en lumière la nécessité d'agir pour répondre à la présence d'une main-d'oeuvre caractérisée par une croissance rapide et une productivité relativement faible. Il faut donc faire de la création d'emplois un objectif séparé (plutôt que de l'inclure dans une stratégie visant à maximiser la croissance de la production). C'est dire aussi que l'évaluation des projets d'investissement publics (en particulier dans les zones rurales de Java) doit fonder le coût de la main-d'oeuvre non qualifiée non pas sur le salaire pratiqué dans la riziculture, mais sur la plus faible rémunération obtenue pour une activité marginale du bas de l'échelle économique.

7. L'interprétation qui est donnée ici du marché du travail s'appuie sur des données tirées principalement des études de village et des enquêtes sur la main-d'oeuvre. Les études de village sont indispensables pour mieux évaluer l'économie, de Java notamment. On cherche ici à utiliser les conclusions qui découlent de ces études pour dégager, à partir de données globales, l'évolution générale de l'emploi et de la production. Cet effort devrait être poursuivi.

Chômage, taux de participation et éducation

8. Le Chapitre 1 brosse un tableau général du chômage déclaré (c'est-à-dire chiffré) en Indonésie où, comme dans nombre de pays en développement, le problème se présente plus particulièrement dans les zones urbaines, surtout parmi les jeunes. Le pourcentage de chômeurs déclarés est trois à quatre fois plus élevé dans les villes que dans les campagnes. Dans le secteur urbain, le taux de chômage masculin est de 25 % pour le groupe des 15 à 19 ans et de 18 % pour le groupe des 20 à 24 ans (la moyenne générale dans les villes étant d'environ 7 % pour la population masculine).

9. Mais le chômage chiffré ne donne pas la mesure exacte des difficultés réelles que rencontrent les jeunes des villes à la recherche d'un emploi. Il ressort des enquêtes sur la main-d'oeuvre que, pour ceux qui se disent chômeurs, la période de chômage ne dure généralement pas plus d'un mois. Par contre, les taux élevés de non-participation à la main-d'oeuvre enregistrés parmi les jeunes des villes révèlent, de manière saisissante, avec quelle lenteur ils abordent le marché urbain du travail. Il semblerait donc que les jeunes ne cherchent pas sérieusement de travail tant qu'ils n'ont pas l'impression qu'ils pourront assez vite en trouver un à leur convenance. Pour la population urbaine masculine, les taux de participation étaient de 34 % pour les 15 à 19 ans et de 75 % pour les 20 à 24 ans. Les taux correspondants de participation féminine à la main-d'oeuvre étaient de 23 % et de 29 % - soit sensiblement inférieurs aux taux enregistrés dans le secteur rural. On peut se faire une idée de l'ampleur du problème quand on sait que, dans les villes, même dans le groupe d'âge des 20 à 24 ans, 40 % de la population masculine et 76 % de la population féminine étaient sans emploi (c'est-à-dire étaient en chômage ou ne faisaient pas partie de la main-d'oeuvre). Les données SAKERNAS sur l'occupation des non-participants montrent que, dans ce

groupe d'âge, jusqu'à 20 % de personnes de sexe masculin des villes disaient être à l'école, alors qu'officiellement le taux des effectifs du tertiaire, à cette date (1977/78), n'était que de 2 %. Il semble donc qu'un grand nombre de non-participants étaient en réalité des travailleurs découragés qui, pour excuser leur inactivité, prétendaient suivre des études quelconques.

10. Le rapport qui existe entre le sous-emploi des jeunes urbains et l'expansion de l'éducation en Indonésie est une question d'importance. Il est clair, d'après les données présentées au Chapitre 1, que les taux de chômage et de non-participation augmentent avec le degré d'instruction, compte tenu des ajustements en fonction du groupe d'âge. Ainsi, dans les villes, le taux de participation des personnes de sexe masculin qui ont de 20 à 24 ans est d'environ 60 % pour ceux qui ont fait des études secondaires et d'environ 90 % pour ceux qui n'ont pas dépassé le stade du primaire. Il convient de se rappeler, à cet égard, que les études secondaires devraient normalement avoir pris fin bien avant l'âge de 20 ans et que le fait de ne pas finir l'école avant un âge aussi avancé est déjà une preuve des difficultés qu'ont les jeunes à trouver un emploi. Les chiffres relatifs au chômage déclaré font apparaître qu'une proportion non négligeable de ceux qui ont fait des études secondaires en sont encore à chercher un emploi aux approches de la trentaine. Il n'y a pas moins pénurie de main-d'oeuvre instruite dans certains secteurs, comme dans l'agriculture, qui manque de techniciens. Il faut, de toute évidence, poursuivre l'effort de recherche dans ce domaine afin de déterminer en quels points de l'éventail des niveaux d'instruction il y a pénurie ou risque d'excédent.

Evolution générale de la production, de l'emploi et des salaires de 1961 à 1980

11. Le rapport comprend tout un ensemble de données globales sur la croissance de l'économie indonésienne de 1961 à 1971 et de 1971 à 1980. Il met particulièrement en relief le taux de croissance de l'emploi (mesuré par le chiffre de main-d'oeuvre). Ainsi qu'il ressort des meilleurs renseignements disponibles, ce taux aurait été de 2,9 % par an au cours de la période 1971-80, en augmentation donc, par rapport aux années 60 (2,4 %). Ces taux se situent au bas de la fourchette des taux de croissance plausibles indiqués dans le rapport antérieur de la Banque mondiale sur l'emploi. Par contre, les précédents rapports économiques de la Banque ont retenu le taux le plus élevé enregistré au cours de cette période, soit 4,7 % ^{1/}. L'estimation donnée ici pourra, naturellement, être révisée à mesure que seront analysées de façon plus détaillée les

^{1/} Voir Banque mondiale (1979), 2093-IND et Banque mondiale (1980), 2788-IND. Dans le document Banque mondiale (1981), 3307-IND, le taux de croissance de l'emploi cité est de 3,3 % par an. Dans Banque mondiale (1982) 3795-IND, le taux estimatif est de 2,65 %.

données du recensement de la population de 1980, mais il semble que le chiffre de 4,7 % soit exagérément élevé. L'accélération de la croissance de l'emploi (et de la main-d'oeuvre) au cours des années 70 est liée à une augmentation de la proportion de la population active plutôt qu'à un accroissement des taux de participation de la main-d'oeuvre.

12. La croissance de la production (7,3 % par an) a été largement supérieure à ce taux révisé de croissance de l'emploi pendant la dernière décennie. Toutefois, l'examen de l'évolution des salaires réels dans les quelques secteurs organisés pour lesquels il a été possible d'obtenir des données - agriculture, plantations et bâtiment - fait apparaître que, pour les travailleurs non spécialisés, les salaires réels sont demeurés constants pendant la majeure partie de cette période, en dépit d'une croissance rapide de la production.

13. Cette croissance rapide de la production à salaires constants serait, selon le rapport, l'une des principales caractéristiques de l'expansion macroéconomique de l'Indonésie. Dans une situation où les marchés du travail sont compétitifs et où les salaires sont déterminés par les forces du marché, ce phénomène peut s'expliquer par le fait que la croissance de l'emploi "effectif" (l'emploi mesuré, non par le nombre de personnes employées, mais par leur efficacité, avec ajustement au titre de l'accumulation des compétences) est supérieure à celle de l'emploi "mesuré". Une autre explication possible serait que les économies de main-d'oeuvre dues aux progrès de la technique ont été suffisantes pour permettre une croissance rapide de la production à salaires constants. Ces possibilités sont examinées à l'Annexe A. La conclusion qui découle de l'analyse méthodique du premier point est que l'accumulation de compétences ne change rien à l'ensemble du tableau. Les résultats chiffrés tirés du modèle de croissance avec progrès technique indiquent pour quelles hypothèses précises de la valeur des paramètres le taux de croissance de la production enregistré serait compatible avec des taux de salaire constants.

14. D'après le rapport, un cadre de référence fondé sur une main-d'oeuvre abondante, disponible aux taux de salaire du marché, dans les principaux secteurs de l'économie (y compris dans la riziculture) permettrait d'interpréter l'évolution observée dans la productivité et les salaires. Mais, à la différence de certaines versions antérieures du modèle correspondant à un excédent de main-d'oeuvre, l'hypothèse selon laquelle l'offre de main-d'oeuvre est parfaitement élastique pour un salaire correspondant à la productivité moyenne du travail, dans l'agriculture, est inacceptable. Dans le secteur agricole, la production s'est accrue au rythme annuel de 3,6 %, ce qui est nettement supérieur au

taux de croissance de l'emploi dans ce secteur (1 % par an) 1/. S'appuyant sur des études microéconomiques approfondies de villages javanais, le rapport examine les marchés de la main-d'oeuvre rurale et émet plusieurs hypothèses sur la détermination des salaires agricoles. L'effort qui est ainsi fait pour rattacher un "micro-aspect" du marché du travail (au Chapitre 3) au tableau d'ensemble de l'économie (Chapitre 2) n'est qu'un premier pas. Il reste encore beaucoup à faire à propos des études de village et de la collecte de données. Certains des points qui nécessitent une étude plus poussée sont indiqués en fin de document.

Le fonctionnement des marchés du travail en Indonésie : une interprétation

15. Les deux principaux facteurs conventionnels mis en lumière par les études microéconomiques de village à Java sont les suivants :

- a) Le nombre d'heures de travail consacrées à l'activité agricole la plus importante - la riziculture - ne représente qu'une faible partie du nombre total d'heures que les ménages ont fournies au marché de la main d'oeuvre agricole, y compris les ménages sans terre 2/. La contribution aux tâches agricoles salariées est généralement de 30 à 40 % des travailleurs sans terre. Le reste du temps de travail est consacré à diverses activités de commerce, de services, d'artisanat, et parfois à un travail salarié non agricole en dehors des villages.

1/ Sans parler de l'extraction minière, les taux de croissance globale de la production et de l'emploi ont été les suivants : agriculture (3,5, 1,0); secteur secondaire (12,9, 4,9); secteur tertiaire (8,3, 6,1). Le secteur secondaire comprend les industries manufacturières, le bâtiment, les transports et les services publics. Le secteur tertiaire comprend le commerce et les services. Les pourcentages d'emploi dans les trois secteurs étaient, à la fin de la période, de 56 %, 15 % et 29 % respectivement.

D'après le rapport de la Banque mondiale (1981) 3182-IND, Annexe 1, l'emploi dans les grandes et moyennes entreprises aurait augmenté de 6 à 12 % au cours des années 70. Toutefois, en 1974/75, ces entreprises ne représentaient que 13 % de l'emploi total dans le secteur manufacturier.

2/ Ici, et dans le reste du rapport, le terme générique "riz" est utilisé pour désigner le secteur agricole productif qui absorbe une part considérable de la main-d'oeuvre salariée. Il recouvre les cultures de plantation ainsi que d'autres cultures qui jouent un rôle important dans l'économie paysanne, comme la canne à sucre.

- b) La rémunération du travail (par homme-heure) est sensiblement inférieure en dehors du secteur du riz. Il ressort d'études sur le terrain que cette rémunération pourrait être de l'ordre de 30 % du salaire pratiqué dans le secteur du riz pour les personnes de même âge/sexe. Ces diverses activités (exercées le plus souvent au compte de l'intéressé) étant d'un moindre rapport, on les a classées dans la catégorie dite "secteur marginal" (voir suite du document). Evidemment, pendant la morte-saison, une plus grande partie du temps est consacrée à des activités marginales. Mais, même pendant la campagne du paddy, ces activités absorbent une part importante du temps de travail des adultes, du fait, notamment, que les marchés du travail du riz sont respectivement circonscrits aux villages intéressés et que, dans tout village, même en saison de pointe, la demande de main-d'oeuvre rizicole se mesure en jours, et non en mois. La disparité saisonnière de rémunération du travail entre le secteur du riz et les activités marginales exige une étude plus poussée. L'ampleur du différentiel saisonnier n'est pas mentionnée dans toutes les études sur le terrain, mais uniquement, semble-t-il, dans les études ne portant que sur la haute saison 1/.

16. On peut donc dire qu'il existe un excédent de main-d'oeuvre à Java dans le sens - limité et particulier - qu'il existe un réservoir d'unités de main-d'oeuvre (plutôt que de travailleurs) dans des activités marginales où le salaire horaire est sensiblement inférieur à ce qu'il est dans le secteur du riz. L'importance macroéconomique de ce type de marché du travail réside dans le fait que le secteur du riz a la possibilité de puiser dans ce réservoir au taux de salaire supérieur pratiqué dans ledit secteur. Du fait de cette élasticité parfaite de l'offre de main-d'oeuvre dont il bénéficie, le rendement par travailleur peut augmenter dans le secteur rizicole pendant un certain temps sans autre effet sur les taux de salaires, même en l'absence d'innovations techniques réductrices de main-d'oeuvre. La question se pose donc de savoir pourquoi des propriétaires guidés par la recherche du profit payent à ceux qui travaillent leurs champs un salaire plus élevé que n'en perçoivent ceux qui s'emploient à des activités marginales. La réponse est donnée probablement par le rapport entre salaire et efficacité, un salaire élevé ayant pour effet de stimuler l'ardeur des travailleurs. Par rapport à la faible rentabilité des activités indépendantes auxquelles il s'adonne dans le secteur marginal, le rendement du travailleur s'accroît plus vite, en proportion, que le salaire qui lui est offert, jusqu'à un point d'inflexion à partir duquel le gain d'efficacité cesse d'être

1/ Dans la plupart des villages, il y a généralement un éventail de salaires à la fois pour le riz et pour les activités marginales. Le modèle double, avec salaires moyens différents, est une sorte de convention permettant de souligner l'importance des activités marginales comme réservoir de main-d'oeuvre "excédentaire".

proportionnel. Il existe donc un niveau de salaire - plus élevé que le prix du travail dans le secteur marginal - qui correspond au coût de salaire unitaire le plus bas pour l'employeur. Nul employeur, fût-il le plus âpre au gain, ne proposera un salaire inférieur à celui-là, même s'il y a abondance de main-d'oeuvre à ce prix. On pourrait donc penser que le but visé en proposant un salaire supérieur est d'attirer la meilleure main-d'oeuvre possible. Il se trouve - et c'est là un point capital - que le sens de la relation de cause à effet va du salaire à l'efficacité, et non pas le contraire. Plus le salaire est élevé (jusqu'au point d'inflexion), plus le rendement dans presque tous les cas, augmente. Etant donné qu'il y a abondance de main-d'oeuvre au salaire plancher qui minimise les coûts salariaux, les employeurs doivent choisir certains travailleurs plutôt que d'autres. Toutes les études faites sur le terrain dans les campagnes javanaises signalent l'importance du système d'embauche préférentiel pour la main-d'oeuvre employée dans la riziculture.

17. On a déjà dit que le marché de la main-d'oeuvre rurale à Java (comme dans d'autres pays d'Asie) est spécifiquement villageois. Ainsi, le salaire économique qui détermine le prix plancher pour les travaux agricoles est lié à la norme propre au village et reflète ses conditions économiques. Les salaires agricoles varient d'un village à l'autre, pour la même saison ou le même travail. Ainsi, dire que le salaire réel demeure constant revient à dire que la fourchette des taux de salaire correspondant à un travail donné ne s'est pas sensiblement élargie, bien que la production par travailleur ait augmenté. On ne prévoit pas de hausse tant que la demande de main-d'oeuvre agricole n'aura pas progressé, par rapport à l'offre, dans des proportions suffisantes pour entraîner une réduction sensible du réservoir de main-d'oeuvre employée à des activités marginales.

18. Le marché urbain et le marché rural du travail se rejoignent au niveau de deux types de migrants : ceux qui, sans emmener leur famille, vont travailler temporairement dans les villes et ceux qui, migrants plus permanents, vont s'installer dans les zones urbaines avec leur famille. Les premiers se rencontrent surtout dans le secteur non structuré du marché urbain du travail et, bien que l'on n'ait que très peu de données sur la question, on peut penser que ce phénomène de va-et-vient migratoire maintient relativement proches l'une de l'autre la rémunération du travail dans le secteur urbain non structuré et dans les activités marginales du secteur rural, compte tenu des différences de coût de la vie et du transport. En dehors du secteur non structuré, on peut penser que le rapport salaire-efficacité s'applique aux salariés des villes autant qu'aux ouvriers agricoles. En fait, il est raisonnable de supposer que le lien entre salaire et efficacité est d'autant plus fort que les effectifs de main-d'oeuvre sont plus nombreux et que l'organisation de l'unité qui embauche est plus complexe. On a pu observer dans maints pays en développement (y compris au Japon durant sa phase de développement) que, dans le secteur manufacturier, le salaire des ouvriers non spécialisés augmente avec la taille de l'entreprise, même en l'absence de syndicats ou de législation du travail. Le cas de l'Indonésie n'est nullement différent pour ce qui est de la physionomie générale des salaires urbains.

Le Chapitre 3 traite de l'échelle des salaires pour les travailleurs non spécialisés du secteur manufacturier des villes avec, au bas de l'échelle, les petites entreprises non mécanisées et, en haut, les coentreprises ou les multinationales. L'écart des salaires entre ces deux extrêmes peut atteindre 250 %.

Le salaire de référence

19. Le modèle de marché du travail susmentionné suppose que le salaire de référence utilisé pour les projets ruraux se calcule sur la base du coût d'opportunité correspondant à l'emploi d'une unité de main-d'oeuvre non spécialisée, c'est-à-dire la rémunération des activités rurales marginales. Il ressort d'études faites sur le terrain qu'à Java, cette rémunération peut ne pas être supérieure au tiers du salaire pratiqué dans le secteur du riz. Selon les calculs, si l'on tient compte du coût social de l'accroissement de la consommation du ménage rural représentatif qui fournit la main-d'oeuvre, le salaire de référence représenterait 28 % du salaire agricole. Comme on l'explique plus loin, il convient de nuancer cette affirmation, les données relatives aux gains saisonniers étant toujours rares en Indonésie.

Perspectives concernant l'emploi et les salaires

20. Se fondant sur l'évolution passée, le rapport prévoit un accroissement de la main-d'oeuvre de 2,6 % par an environ jusqu'en 1990. Sera-t-il absorbé par un accroissement de la demande au cours de la prochaine décennie et à quels niveaux de salaire? Telle est la question primordiale que l'on se pose devant les perspectives de la croissance de l'emploi en Indonésie. Le rapport examine les perspectives de l'emploi en Indonésie dans l'optique d'un "tournant" (correspondant à l'épuisement d'un "excédent" de main-d'oeuvre, tel qu'il est défini à la page 11).

21. Un coup d'oeil rétrospectif sur l'expérience de deux pays d'Asie dont l'économie est fondée sur la riziculture - le Japon et la Corée - dont le cas est étudié au Chapitre 4, fait apparaître que l'un et l'autre ont connu une période de croissance soutenue de la production par travailleur dans l'agriculture, sans que le salaire réel ait augmenté, sinon légèrement. Cette période de croissance à salaire presque constant (dans l'agriculture) s'est prolongée au Japon (50 ans ou davantage), la production par travailleur n'augmentant qu'à un rythme modéré, et a été nettement plus courte en Corée, où la productivité agricole a augmenté beaucoup plus vite durant la période de transition qui a précédé le tournant. Mais, dans l'un et l'autre cas, le tournant est reconnu comme un fait historique, comme un véritable "bond" dans l'évolution temporelle des salaires agricoles réels. Après une assez longue période de lente progression des salaires réels, les salaires ont augmenté de six à sept fois plus vite qu'auparavant.

22. Du point de vue de la protection sociale, ce tournant signifie qu'avant qu'il ne soit atteint, la part de la production qui va au salaire diminue régulièrement, la productivité du travail augmentant plus vite que la masse salariale. Comme en Asie la mécanisation de l'agriculture ne joue pas un grand rôle avant le tournant, une grande partie de la différence entre productivité du travail et salaire se traduit par un accroissement de la part des loyers et des profits. Un deuxième problème important que soulève la question des "retombées" de l'augmentation de la productivité agricole est de savoir si l'économie suit une ligne de croissance qui pourrait bientôt déboucher sur le tournant. Si tel est le cas, une plus grande proportion du travail de ceux pour qui l'agriculture est l'occupation principale ira, du secteur marginal, à l'agriculture. Les salaires horaires étant plus élevés dans ce secteur, le revenu par travailleur finira par augmenter, même si les salaires agricoles demeurent constants. Toujours pendant la période de transition, les deux pays examinés au Chapitre 4 - le Japon et la Corée - ont enregistré un transfert important de main-d'oeuvre de l'agriculture vers le secteur manufacturier, où les salaires étaient plus élevés (le nombre de travailleurs agricoles diminuant en fait, en chiffres absolus durant certaines parties de la période de transition). Cette redistribution de la main-d'oeuvre fait également progresser le revenu par travailleur, pour l'ensemble de l'économie jusqu'au tournant, même si les taux de salaire réels demeurent constants dans chaque secteur.

23. Il ressort des données présentées ici que l'Indonésie n'a pas encore dépassé ce tournant. Rien n'indique qu'il y ait véritablement des pressions à la hausse sur les salaires réels, bien que la production par travailleur agricole ait fortement augmenté pendant la dernière décennie. Mais y a-t-il des signes qui montrent que l'Indonésie (ou, plus précisément, Java) se trouve engagée sur une voie de croissance qui rapproche l'économie du tournant? Les éléments d'appréciation dont on dispose sur ce point sont plus difficiles à évaluer. On ne connaît pas le nombre d'heures que consacrent à des activités agricoles et marginales les travailleurs dont l'agriculture est la principale activité. On ne sait pas si la proportion de travail consacrée à l'agriculture diminue avec le temps, ce qui serait le cas si l'économie approchait du tournant. Mais, bornant notre attention à l'occupation principale de la main-d'oeuvre, nous avons observé que le tertiaire est la principale source d'emplois additionnels pour les effectifs croissants de la main-d'oeuvre. Ce qui a singularisé la croissance de l'économie indonésienne pendant la dernière décennie, c'est le rôle relativement peu important qu'y a joué le secteur manufacturier comme source d'emplois additionnels, alors que le nombre annuel de travailleurs tributaires de l'agriculture n'a cessé de croître. Cette évolution de la répartition sectorielle de la main-d'oeuvre dans le temps contraste vivement avec le cas du Japon et de la Corée au cours de leur période de transition, avant le tournant. En Indonésie, le rapport des augmentations d'emplois dans le tertiaire aux augmentations d'emplois dans le secteur manufacturier a été de 4 pour 1 alors que, pour les deux pays rizières qui ont "réussi", ce rapport se situait entre 1 et 2. De même, au Japon et en Corée, les travailleurs agricoles ont été bien plus nombreux à quitter l'agriculture, ce qui n'a pas empêché ce secteur de connaître une forte croissance de sa production.

24. La comparaison des diverses évolutions suivies indique que la voie suivie par la croissance indonésienne au cours de la dernière décennie ne mène pas au tournant. Deux faits, cependant, pourraient permettre de nuancer cette affirmation. Tout d'abord, à la différence des autres pays, l'Indonésie est riche en pétrole et l'effet multiplicateur des dépenses du secteur public (financées par les revenus pétroliers) pourrait être particulièrement favorable à la création d'emplois dans le tertiaire. Ensuite, il est possible que l'Indonésie ait de plus grandes marges de culture extensive et intensive que les autres pays, si bien que son agriculture aurait une plus grande capacité d'absorption productive de main-d'oeuvre.

25. L'un et l'autre points méritent réflexion. Le présent rapport ne peut y apporter de réponse catégorique au vu des données existantes. Pour ce qui est du premier point, il y a tout lieu de penser que le gros apport de ressources dû au secteur pétrolier a provoqué, directement et indirectement, une très forte croissance des revenus. Compte tenu des effets des termes de l'échange, le revenu national s'est accru d'environ 10 % par an dans les années 70 - ce qui ne pouvait manquer de provoquer une très forte demande de services. Mais on ne voit pas bien quelle en aura été finalement l'incidence sur le marché du travail. On a déjà dit qu'il est urgent d'avoir davantage d'informations - tant statiques que chronologiques - sur la rémunération du travail dans le secteur tertiaire. Une étude comparative de l'évolution des salaires dans le tertiaire et dans ses importants sous-groupes permettrait de savoir si la main-d'oeuvre a été "poussée" vers ce secteur par l'absence de possibilités d'emploi dans les autres. On ne peut, pour l'instant, que se borner à appeler l'attention sur le taux plus rapide d'accroissement du nombre d'emplois dans le tertiaire par rapport au secteur manufacturier. Il est extrêmement élevé si on le compare, non seulement aux taux enregistrés au Japon et en Corée durant leurs périodes de transition, mais aussi dans d'autres pays en développement. Toutefois, il est clair que dans le tertiaire, la croissance future ne suivra pas le même tracé que dans le passé, vu les perspectives actuelles du marché international du pétrole. Dans les années 70, les salaires plus élevés qui y étaient pratiqués ont attiré la main-d'oeuvre. Mais il est peu probable que ce phénomène se reproduise pendant les années 80. Il n'y a pas - ou guère - eu, semble-t-il, de croissance du PIB en 1982 et 1983 et, même avec un bon programme d'ajustement structurel pour rétablir la croissance à moyen terme, il est peu probable que l'ensemble de la production, pour la décennie, augmente de plus de 5 à 6 % par an. Compte tenu des tendances passées de l'absorption de main-d'oeuvre par secteur, cela signifierait que l'emploi n'aurait progressé que de 2 % par an, alors que la main-d'oeuvre aura augmenté de 2,6 %. S'il n'est pas pris de mesures compensatoires, il faut s'attendre à un affaiblissement grave des perspectives du marché du travail.

26. En ce qui concerne la question des marges de cultures extensive et intensive à Java, les données du Chapitre 4 indiquent que le coefficient terre-homme (c'est-à-dire le rapport entre terres agricoles et main-d'oeuvre agricole) était considérablement plus faible à Java en 1971

qu'en Corée dans les années 60, ou même qu'au Japon pendant une grande partie de sa période de transition depuis le début du siècle. On voit aussi, d'après les études dont on dispose sur les exploitations agricoles, que l'apport de main-d'oeuvre, mesuré en hommes-jours par hectare (avec le rendement de paddy à l'hectare) était plus élevé à Java en 1971 qu'en Corée dans les années 60. Il semblerait que, bien qu'il puisse y avoir encore à Java quelques zones isolées où un nouvel apport de main-d'oeuvre serait susceptible d'accroître la productivité et la rentabilité des exploitations, le pays, dans son ensemble, soit cultivé de manière plus intensive que les deux autres pays rizicoles durant leur période de transition. Au Chapitre 4, le rapport examine aussi certains calculs, faits sur la base de coefficients terre-homme propres à Java, concernant les plus importantes cultures pratiquées dans l'île en 1979. Selon une estimation très prudente, les besoins de main-d'oeuvre agricole, à Java, étaient inférieurs d'environ 20 % aux effectifs disponibles (en prenant pour hypothèse une contribution par travailleur de 200 hommes-jours par hectare). Ces chiffres sont conformes aux données des enquêtes susmentionnées selon lesquelles les travailleurs agricoles consacrent une part considérable de leur travail à des activités marginales. Deux autres questions se posent à ce sujet : i) Pendant combien de temps la croissance annuelle de la production agricole pourrait-elle être maintenue au taux de 3,6 % enregistré à Java au cours de la dernière décennie? ii) Les techniques d'économie de main-d'oeuvre qui ont fait leur apparition dans certaines parties de Java, parallèlement à la commercialisation accrue de l'agriculture, vont-elles se généraliser, réduisant ainsi la demande de main-d'oeuvre?

Action à envisager

27. Les auteurs du rapport doutent beaucoup que la croissance de l'emploi dans l'économie indonésienne, dans les années 70, ait suivi une voie susceptible de conduire, à la longue, au tournant. Avec une baisse probable des revenus du secteur pétrolier et, par conséquent, une diminution de la croissance globale pendant le reste de la décennie, les perspectives d'absorption de la main-d'oeuvre sont mauvaises si l'on considère l'évolution des dernières années. On en déduit que des mesures devront être prises pour orienter davantage la croissance vers la création d'emplois. C'est là une question difficile à laquelle le rapport, qui cherche surtout à analyser la situation actuelle et les perspectives des marchés du travail, n'est pas en mesure de répondre. On peut, néanmoins, tenter de définir brièvement un certain nombre de conséquences qui découlent, sur le plan pratique, de la conclusion fondamentale du rapport.

28. Le montant des dépenses publiques et leur répartition peuvent avoir une grande influence sur la demande de main-d'oeuvre. A court terme, les travaux publics qui font appel à une nombreuse main-d'oeuvre, comme les travaux d'infrastructure locale des programmes de l'INPRES, favorisent directement l'emploi et peuvent aussi drainer les ressources vers les zones rurales relativement pauvres, entraînant la création d'emplois. Le maintien de ces activités sera particulièrement important pendant les deux ou trois années à venir, l'Etat devant adopter d'autres

mesures de réduction des dépenses afin de ramener la dette extérieure à des limites plus modestes. Il faudra donc redistribuer les dépenses au sein du programme d'investissements publics, les activités à fort élément d'importation faisant place à celles qui sont plus fortes consommatrices de main-d'oeuvre. En mai 1983, le Gouvernement a annoncé un vaste plan de réaménagement des grands projets d'investissements publics devant permettre de réaffecter les rupiahs économisés à des investissements nettement créateurs d'emplois.

29. L'absorption de main-d'oeuvre par l'agriculture a été faible dans les années 70 par rapport à l'accroissement de la production, mais, vu son rôle important en matière d'emplois, le comportement de ce secteur sera déterminant pour l'ensemble du marché du travail. Il sera probablement nécessaire, au cours des années 80, si l'on veut maintenir les taux de croissance passés qui étaient de 4 % par an environ et créer de nouveaux emplois, de diversifier la production agricole en favorisant l'horticulture, quelques cultures vivrières secondaires, ainsi que l'élevage et la pêche à petite échelle, aux dépens du riz. En outre, le mouvement de transmigration officielle et spontanée vers les autres îles pourrait avoir une influence considérable. Au rythme actuel d'environ 100.000 familles par an, c'est pratiquement un cinquième de la main-d'oeuvre javanaise excédentaire qui pourrait ainsi être absorbé.

30. Les orientations du secteur manufacturier joueront un rôle de plus en plus important au cours de la prochaine décennie et au-delà. Comme il est dit au Chapitre 4, ce secteur a, dans le passé, absorbé un fort pourcentage de main-d'oeuvre dans les pays rizicoles qui ont réussi. L'Indonésie fait exception dans la mesure où ce secteur n'y a représenté qu'une infime partie de l'offre totale d'emplois, et encore s'agissait-il surtout de petites industries rurales. Une réorientation des options sera nécessaire pour favoriser l'absorption de la main-d'oeuvre, d'autant que l'Indonésie en a déjà presque fini avec la substitution des importations dans les industries de biens de consommation à forte intensité de main-d'oeuvre et que, à part la croissance relativement lente de la demande finale, les nouvelles augmentations de production pour le marché interne devront être surtout le fait des industries de biens de production, qui absorbent beaucoup plus de capitaux. C'est dire la nécessité d'une politique industrielle axée sur les exportations, surtout de biens de consommation, par des mesures tendant à réduire la préférence accordée à l'heure actuelle aux substitutions d'importations et par des mesures destinées à encourager les exportations. Il y aura peut-être à se préoccuper aussi du développement du petit secteur manufacturier, dont la production peut se ressentir de la concurrence des secteurs à moyenne et grande échelles plus productifs. On n'a pas cherché, ici, à étudier les mesures de soutien aux petites industries ou le prix à payer pour protéger des sous-secteurs qui sont gros consommateurs de main-d'oeuvre. Les prochaines analyses devraient porter sur la question du grand écart de salaires entre les petites et les grandes entreprises, comme il est dit au Chapitre 3. Il peut y avoir un choix économique à faire entre l'option consistant à employer un petit nombre de travailleurs à un salaire relativement élevé et celle consistant à employer une main-d'oeuvre nombreuse à un moindre salaire.

31. Enfin, les prix du marché des facteurs ne permettent pas de déterminer correctement les besoins de main-d'oeuvre pour tel ou tel projet d'investissement. Il faudra donc trouver des mécanismes d'intervention appropriés, notamment comme on l'a déjà dit, l'utilisation appropriée du salaire de référence dans l'évaluation des projets d'investissements publics. On pourrait, à ce propos, souligner un point qui a son importance. Dans les études sur l'évaluation des projets, le prix de référence de la main-d'oeuvre est généralement fixé à un stade relativement avancé du processus de décision, lorsque l'utilisation du prix comptable approprié n'intervient plus que marginalement dans le choix entre telle ou telle option. Aussi, l'étude directe des diverses options sectorielles doit-elle venir compléter l'utilisation du salaire de référence si l'on veut donner plus d'importance à une stratégie de développement axée sur l'utilisation de la main-d'oeuvre.

32. Il est un facteur non moins important - et peut-être même, davantage - qui fait des prix du marché un indice trompeur pour le choix des techniques: la sous-évaluation du capital, du moins dans certains grands secteurs de l'économie. Ainsi, l'achat de tracteurs peut paraître rentable au prix du marché, mais il peut ne pas être socialement productif si l'on utilise, pour la main-d'oeuvre et le capital, des prix comptables appropriés ^{1/}, sauf si des recherches précises ont permis de déceler des poches de pénurie de main-d'oeuvre dans certains domaines.

Travaux ultérieurs sur l'emploi et la rémunération du travail en Indonésie

33. Bien qu'il insiste sur le fait qu'un modèle de marché du travail fondé sur l'hypothèse qu'il existe un excédent de main-d'oeuvre dans le secteur rural (et sur l'idée connexe que le secteur du riz est un secteur privilégié pour les chercheurs d'emploi) permet de comprendre le développement de l'Indonésie, le rapport ne conclut pas pour autant que ce modèle ait été définitivement testé et vérifié. D'autres travaux sont nécessaires, et d'autres hypothèses sont à envisager tant au niveau microéconomique qu'au niveau macroéconomique. L'Appendice A du Chapitre 3 présente divers micromodèles de marché de la main-d'oeuvre rurale et examine dans quelle mesure les données empiriques existantes justifient le choix du modèle fondé sur l'existence d'un "excédent" de main-d'oeuvre. Dans l'Annexe au rapport, on cherche à savoir si les grandes tendances macroéconomiques du développement indonésien sont conformes au cadre des modèles néoclassiques globaux et à établir pour les paramètres clés, des fourchettes de valeur qui soient conformes aux faits. On examine, dans ce contexte, la pertinence du modèle fondé sur l'existence d'un excédent de main-d'oeuvre pour l'interprétation des grandes tendances.

^{1/} Voir Rudolph S. Sinaga, "Implications of Agricultural Mechanization for Employment and Income Distribution", Rural Dynamics Study Series, No 2, Bogor.

34. Le rapport recommande d'autres travaux pratiques pour observer directement le fonctionnement des marchés du travail. Pour les zones rurales, voici quelques points importants qu'il conviendrait d'approfondir :

i) La demande de main-d'oeuvre agricole, à Java, dépend de la nature de la saison active par rapport à la morte-saison. Combien de temps dure la saison active et quels en sont les effets sur tel ou tel aspect de la main-d'oeuvre? Quelle est la proportion du temps de travail consacrée au secteur productif (du riz) et aux activités marginales, par principaux groupes d'âge/sexes classés en fonction de leur situation économique? Les salaires horaires dans le secteur marginal sont-ils nettement inférieurs à ce qu'ils sont dans le secteur du riz pendant la saison active, comme ils le sont pour l'ensemble de l'année? Les études qui ont été faites sur les villages fournissent pas mal de réponses à ces questions, mais, ou bien ces données n'y ont pas été analysées, ou bien elles ne se présentent pas sous une forme qui permette de dégager une réponse. Une étude plus attentive des microdonnées déjà recueillies pour les différents villages s'impose donc.

ii) Naturellement à Java, comme dans toutes les sociétés rurales d'Asie, les conditions des marchés du travail varient beaucoup d'une région à l'autre ou même d'un village à l'autre. Il pourra arriver, sans doute, que le modèle de l'excédent de main-d'oeuvre s'applique à certains villages plus qu'à d'autres. C'est là un point qu'il ne faudra pas perdre de vue dans l'analyse ultérieure des données relatives aux villages. Même s'il n'existe pas assez d'études détaillées de villages, il est probable qu'une analyse croisée des variations de salaires entre villages pour un certain nombre d'occupations ainsi que de leur rapport avec les conditions économiques fondamentales des villages serait tout à fait révélatrice.

iii) Au niveau macroéconomique, le rapport souligne la nécessité de poursuivre l'étude des mouvements salariaux, en particulier dans l'agriculture. Ici encore, on ne saurait trop attacher d'importance à une analyse régionale des tendances observées en matière de salaires et d'emploi. Les données du recensement de 1980 devraient, en utilisant conjointement d'autres sources de statistiques, y compris le recensement de 1971, constituer une mine d'informations sur les tendances régionales de l'emploi au cours des années 70.

iv) Tout aussi importants, comme source d'information, sont le niveau et l'évolution des revenus dans les très grands secteurs non structurés, en particulier celui des services. Une analyse plus approfondie des enquêtes sur les ménages apporterait, sans doute, de nouvelles lumières sur la question; mais les Indonésiens ayant souvent plusieurs occupations, en particulier dans le secteur rural, il importe de formuler soigneusement les questionnaires à utiliser pour les futures enquêtes sur les ménages. Il faudrait s'efforcer de recueillir des renseignements sur le nombre d'heures de travail consacrées à chacune et la rémunération correspondante au lieu de se borner à poser des questions sur l'activité principale.

v) Il est important aussi d'aller au-delà des rapports entre salaires, emploi et production, tels qu'ils sont exposés ici. La terre et le crédit, par exemple, sont des facteurs clés, mais il n'a pas été possible, vu les données dont on disposait et l'état des connaissances sur la question, d'étudier systématiquement les rapports entre les marchés de facteurs de production (terre, capital, main-d'oeuvre) et le rôle que le crédit et le financement, pris au sens large, jouent dans ces rapports. La collecte de nouvelles données statistiques au niveau des villages, que le présent rapport recommande, devrait viser à faciliter l'étude des rapports entre les marchés de facteurs de production et le rôle du crédit.

RESUMEN Y CONCLUSIONES

Introducción

1. El presente informe es parte de la evaluación que viene realizando el Banco sobre los salarios y el empleo en Indonesia. En el último informe especializado 1/ se examinaron los mercados laborales y la distribución del ingreso hasta 1976 inclusive. El informe actual se concentra solamente en las condiciones del mercado laboral (las limitaciones de recursos impiden hacer un análisis en profundidad de los factores asociados de la pobreza y la distribución del ingreso). Los datos básicos incluyen las encuestas trimestrales de la fuerza laboral de 1977, 1978 y 1979, así como los resultados preliminares del censo de población levantado en 1980. De acuerdo con este último, la población de Indonesia creció en el 2,3% por año durante la década de 1970, en lugar del 2% que se había previsto. Por consiguiente, se espera que las adiciones a la fuerza laboral alcancen a un total de aproximadamente quince millones de habitantes en el curso de la próxima década, en contraposición a los veinticinco millones registrados en los dos últimos decenios. Así, pues, es imprescindible observar y evaluar regularmente los mercados laborales y los factores que influyen en ellos.

2. Otro factor que se suma a esta urgencia es la desaceleración que se prevé en el crecimiento de la producción en la década de 1980. ¿Cómo resultarán afectados el empleo y los ingresos por una oferta laboral en rápida expansión, combinada con un crecimiento más lento de la producción, y cómo variarán con diversos supuestos acerca de cómo funcionan los mercados laborales? Tales puntos de vista diversos tienen, a su vez, diferentes repercusiones en la formulación de políticas. El objetivo primordial de este informe es señalar esas repercusiones y promover el estudio adicional de los mercados laborales en Indonesia, incluido un nuevo examen de la utilización de la mano de obra y del ingreso de ésta, en particular en las zonas rurales de Java.

3. En el informe anterior se asumía el punto de vista de que los mercados laborales en Indonesia funcionan de manera eficiente. En él se llegaba a la conclusión de que, en conjunto, dadas las variaciones observadas en los salarios (en el curso del tiempo y entre las regiones) y la movilidad de la mano de obra, las fuerzas de la oferta y la demanda proporcionan una explicación suficiente del nivel y la estructura de los salarios y el empleo y, en consecuencia, no había desempleo a largo plazo

1/ Banco Mundial (1980), 2788-IND.

ni estructural en Indonesia. Quienes suministraban servicios de mano de obra estaban abaratando los salarios a un nivel al que todo el mundo estuviera empleado, a un salario que reflejaba la productividad de la mano de obra y el costo del esfuerzo, en el margen. Los salarios eran bajos, pero ese era el resultado de la falta de insumos complementarios (capital y aptitudes) y no la falla del mercado en cuanto a reflejar el "costo de oportunidad" de la mano de obra, el salario que los trabajadores podían obtener en el margen, en ocupaciones opcionales. Además, en el informe anterior también se indicaba que las diferencias observadas en los salarios era probable que fuesen consecuencia de las diferencias en la calidad de la mano de obra suministrada.

4. En el contexto que acaba de exponerse, no habría problema de empleo per se en Indonesia, ni tampoco necesidad de formular políticas separadas dirigidas de manera específica hacia la creación de empleos. Asimismo, los proyectos de inversión pública (en particular en la zona rural de Java) deberían evaluarse utilizando un precio para la mano de obra próximo al salario vigente del mercado, es decir, la relación entre salarios de cuenta y de mercado sería cercana a la unidad.

5. En el presente informe se asume un punto de vista diferente. En primer lugar, se pone en tela de juicio la explicación de que las diferencias salariales en los mercados urbanos de la mano de obra reflejan diferencias en la calidad de ésta. Se elabora una escala de salarios para la mano de obra no especializada y las diferencias salariales observadas parecen demasiado elevadas para que se puedan explicar por diferencias en calidad dentro de la categoría de mano de obra no especializada. En segundo término, en el documento se indica que las bajas tasas de participación de hombres jóvenes y de edad en las zonas urbanas, aunadas a las elevadas tasas de desempleo de la juventud urbana, se traducen en una subutilización sustancial de la gente joven, en particular de la instruida, y no se puede explicar mediante modelos de desempleo en los que se pone de relieve la búsqueda de empleo transicional. En tercer lugar, en el informe se argumenta que las fuerzas sociales y económicas, que no promueven una compensación del mercado laboral, desempeñan una función amplia en la determinación de los salarios. La variabilidad de éstos en términos de arroz, en el curso del tiempo o entre poblados ocurre dentro de una faja angosta que se mantiene estable en el tiempo. La constancia del salario agrícola dentro de esta faja en Indonesia es similar a los salarios agrícolas estables observados en el Japón y Corea antes del agotamiento del excedente de mano de obra rural. En este informe se formula, como hipótesis de trabajo, que en muchos poblados javaneses hay un excedente de mano de obra: a los salarios vigentes hay más gente capaz de trabajar en el cultivo del arroz y dispuesta a hacerlo de la que se puede emplear, tanto en la temporada punta como fuera de ella. En el mercado rural de la mano de obra arrocera, al igual que en los mercados urbanos laborales, hay mecanismos que impiden que tal excedente de mano de obra abarate los salarios.

6. Esas tres características de los mercados laborales indonesios tienen importantes consecuencias en materia de política. Ponen de relieve la necesidad de formular políticas que aborden la cuestión del rápido

crecimiento previsto de la fuerza laboral y de la prevalencia de la productividad relativamente baja de la mano de obra. El presente informe, por consiguiente, hace notar la necesidad de considerar la creación de empleos como un objetivo separado de política (en contraposición a incluirlo bajo políticas en las que se promueve el crecimiento máximo de la producción). Del informe se desprende, asimismo, que en la evaluación de proyectos de inversión pública (en particular en la zona rural de Java) no debe valorarse la mano de obra no especializada al salario vigente en el mercado para el cultivo de arroz, sino al rendimiento más bajo observado en las actividades marginales en la parte inferior de la escala económica.

7. Las pruebas en que se apoya la interpretación de este informe del mercado laboral provienen principalmente de estudios de poblados y de encuestas de la fuerza laboral. Los estudios citados son de importancia fundamental para mejorar los conocimientos acerca de la evaluación de la economía javanesa en particular. En el informe se intenta utilizar las pruebas que aportan esos estudios para interpretar las tendencias generales en materia de empleo y producción a partir de datos agregados. Ese intento debe llevarse más adelante.

Desempleo, tasas de participación y educación

8. En el Capítulo 1 se presenta una visión global del desempleo manifiesto (es decir, medido) en Indonesia. Al igual que ocurre en muchos países en desarrollo, este es un problema que se plantea en las zonas urbanas, en particular entre la población joven. Las tasas de desempleo medido son de tres a cuatro veces más elevadas en el sector urbano que en el rural. Dentro del sector urbano es del 25% para los varones de 15-19 años de edad, y del 18% en lo que se refiere a los de 20-24 años (comparadas con un promedio global de alrededor del 7% para los varones del sector urbano).

9. Ahora bien, el desempleo medido no refleja en medida adecuada las dificultades reales que encuentra la juventud del sector urbano en Indonesia para obtener empleo. Según las encuestas relacionadas con la fuerza laboral, entre los que declararon hallarse sin empleo, la duración de la falta de ocupación no fue larga, ya que en la mayoría de los casos fue de un mes o menos. En contraste, la lentitud del ingreso en el mercado laboral urbano la revelan en forma que llama la atención las elevadas tasas de falta de participación entre la juventud del sector urbano. Parecería, entonces, que la gente joven no busca empleo en forma activa hasta que es probable que en un futuro cercano haya disponible un empleo aceptable. Las tasas de participación fueron del 34% en el caso de los varones del sector urbano de 15-19 años de edad y del 75% entre los de 20-24 años. En lo que se refiere a las mujeres, las tasas correspondientes fueron del 23% y del 29%, respectivamente, porcentaje bastante más bajo del que se observa en el sector rural. La magnitud del problema se puede comprender si se hace notar el dato estadístico de que incluso en el grupo de edad de 20-24 años, el 40% de los hombres del

sector urbano y el 76% de las mujeres del mismo sector no estaban empleados (es decir, se encontraban desempleados o bien no figuraban en la fuerza laboral). Los datos de SAKERNAS con respecto a la ocupación de los no participantes muestran que hasta el 20% de los varones del sector urbano de ese grupo de edad declaró que estaba asistiendo a la escuela, en tanto que la tasa oficial de matrícula en instituciones de nivel terciario en esa fecha (1977/78) era de sólo el 2%. Parecía, así, que muchos de los no participantes eran en realidad trabajadores desalentados que estaban utilizando la educación no formal para excusar su inactividad.

10. Una cuestión de cierta importancia es la relación existente entre la subutilización de la juventud del sector urbano y la expansión educacional en Indonesia. Por los datos que se presentan en el Capítulo 1 es manifiesto que la incidencia del desempleo evidente y la falta de participación aumenta con los niveles educacionales, tomando como referencia el grupo de edad. La tasa de participación de los hombres del sector urbano de 20-24 años de edad, por ejemplo, es de alrededor del 60% con respecto a los que han recibido educación secundaria, y del 90% aproximadamente para los que tienen educación primaria. Debe recordarse a este propósito que la enseñanza secundaria debe terminarse bastante antes de los 20 años y, en realidad, tal edad tardía para terminar la escuela ya constituye en sí un aspecto de la falta de oportunidades de empleo para la juventud. Las cifras relativas a las tasas de desempleo manifiesto revelan que una proporción apreciable de la fuerza laboral con educación secundaria aún sigue en busca de un empleo ya bien cumplidos los veinte años. Al mismo tiempo hay escaseces para categorías específicas de mano de obra instruida, por ejemplo, los trabajadores técnicos que se necesitan en la agricultura. Es evidente que se precisa investigar más con objeto de identificar campos de escasez y de excedente potencial dentro de la gama educacional.

Tendencias generales en materia de producción, empleo y salarios, 1961-80

11. El informe contiene datos agregados completos y detallados acerca del crecimiento de la economía indonesia durante los periodos de 1961-71 y 1971-80. Se presta atención particular a la tasa de crecimiento del empleo (medida por el número de personas empleadas), la cual se estima, utilizando la mejor información disponible, en el 2,9% por año en el curso de 1971-80, lo que representa un aumento con respecto a la del 2,4% registrada durante la década de 1960. Esas tasas caen dentro del extremo inferior de las de crecimiento plausible dadas en el informe anterior del Banco Mundial sobre el empleo. En contraste, en informes económicos previos del Banco se ha tomado la tasa más elevada en ese intervalo, 4,7% ^{1/}. Si bien la estimación que se presenta aquí está

^{1/} Véanse los documentos del Banco Mundial (1979), 2093-IND y Banco Mundial (1980), 2788-IND. En el documento Banco Mundial (1981), 3307-IND, la tasa de crecimiento del empleo que se cita en él es del 3,3% anual. En el documento Banco Mundial (1982), 3795-IND, pág. 95, la tasa estimada es del 2,65%.

sujeta a revisión una vez que se haya analizado a cabalidad la información del censo demográfico de 1980, parecería que esa tasa del 4,7% es elevada en grado inverosímil. La aceleración en el crecimiento del empleo (y de la fuerza laboral) durante la década de 1970 está asociada con el incremento en la proporción de la población en edad de trabajar, y no con un incremento en las tasas de participación de la fuerza laboral.

12. El crecimiento de la producción (7,3% anual) estuvo bastante por encima de esa tasa revisada de crecimiento del empleo durante toda la década pasada. Pero el examen de las tendencias de los salarios en los pocos sectores organizados con respecto a los cuales se pudieron obtener datos --agricultura, plantación y construcción-- indica que los salarios reales correspondientes a los trabajadores no especializados fueron constantes durante gran parte de ese período, pese al rápido crecimiento de la producción.

13. El informe se concentra en la cuestión del rápido crecimiento de la producción a salarios constantes como una de las características importantes de la expansión macroeconómica de Indonesia. Una posible explicación de este fenómeno en el marco de los mercados laborales competitivos y de los salarios de compensación de mercado es que el crecimiento del empleo "verdadero" (el empleo medido en términos de unidades de eficiencia, después de introducir ajustes para tener en cuenta la acumulación de aptitudes, más bien que en términos de personas empleadas) excede del crecimiento del empleo medido. Otra es que el progreso técnico economizador de mano de obra ha sido suficiente como para permitir el rápido crecimiento de la producción con salarios constantes. Estas posibilidades se examinan en el Anexo A del presente informe. La conclusión que cabe inferir del análisis formal del primer argumento es que el tener en cuenta la acumulación de aptitudes no modifica el cuadro global. Los resultados numéricos derivados del modelo de crecimiento con progreso técnico indican los supuestos específicos acerca de los valores de los parámetros que harían compatible la tasa observada de crecimiento de la producción con los salarios constantes en el curso del tiempo.

14. En el informe se expone que para interpretar las tendencias observadas en la economía en cuanto a productividad y salarios sería útil un marco basado en la disponibilidad de mano de obra abundante a las tasas de salarios vigentes en los principales sectores de la economía (incluido el cultivo del arroz con cáscara). Pero, a diferencia de algunas versiones del modelo de mano de obra excedente, no podemos aceptar la hipótesis de que la mano se encuentra en una situación de oferta perfectamente elástica a un salario dirigido hacia la productividad media del trabajo en la agricultura. Dentro del sector agropecuario la producción creció a una tasa anual del 3,6%, por encima en medida apreciable de la tasa de crecimiento del empleo en ese sector (1%

anual) 1/. En el informe se utilizan algunos microestudios intensivos de poblados javaneses a fin de examinar los mercados laborales rurales y se sugieren algunas hipótesis relacionadas con la determinación de los salarios agrícolas. Este intento de vincular un microestudio del mercado laboral (en el Capítulo 3) al macrocuadro de la economía (en el Capítulo 2) es sólo un esfuerzo preliminar. Es menester hacer un trabajo mucho más amplio en estudios de poblados y en la recopilación de datos. Al final de este resumen se indican algunos de los puntos más específicos para investigarlos detenidamente.

Los mercados laborales indonesios: Interpretación de su funcionamiento

15. Los dos hechos importantes convencionales realizados por los microestudios de poblado efectuados en Java son los siguientes:

- a) El número de horas-hombre empleadas en el principal mercado laboral agrícola --el del arroz-- es sólo una pequeña parte del total del tiempo laboral suministrado al mercado incluso por unidades familiares sin tierras 2/. En forma característica, la proporción del tiempo total laboral utilizado en el trabajo agrícola asalariado es del 30% al 40% para los trabajadores sin tierras. El resto del tiempo laboral se dedica a diversas actividades de comercio, servicios, artesanías y, en ocasiones, al trabajo asalariado no agrícola fuera de los poblados.

1/ Si no se considera la minería, las tasas globales de crecimiento de la producción y el empleo, respectivamente, son como sigue: sector agropecuario (3,5; 1,0), secundario (12,9; 4,9), terciario (8,3; 6,1). El sector secundario incluye manufacturas, construcción, transporte y servicios públicos. El sector terciario incluye comercio y servicios. Los porcentajes de empleo total al final del período en los tres sectores fueron 56, 15 y 29, respectivamente.

En el Informe del Banco Mundial (1981) 3182-IND, Anexo 1, pág. 35, se manifiesta que en las empresas manufactureras grandes y medianas el empleo creció entre el 6% y el 12% durante la década de 1970. Pero esas empresas cubrieron sólo el 13% del total del empleo en el sector manufacturero en 1974/75.

2/ Aquí, y en el resto del informe, la palabra "arroz" se utiliza como término genérico para el sector agropecuario productivo que utiliza el trabajo asalariado en escala extensiva. El término incluye cultivos de plantación, así como cultivos no arroceros importantes en la economía campesina, como el de la caña de azúcar.

- b) Los rendimientos de la mano de obra (por hora-hombre) son sustancialmente más bajos en actividades ajenas al mercado laboral del arroz. Los estudios realizados sobre el terreno indican que éstos podrían ser del orden del 30% de la tasa de salarios prevaleciente en el mercado del arroz para grupos similares de edad y sexo. Debido al rendimiento más bajo para la mano de obra en actividades diversas (en gran parte de empleo por cuenta propia), en las páginas siguientes se las clasifica como el "sector marginal". Obviamente, una mayor proporción del tiempo se dedica a actividades marginales en la temporada de poco movimiento, pero incluso en la estación dinámica de cultivo del arroz con cáscara, esas actividades consumen una porción significativa del tiempo laboral de trabajadores adultos de ambos sexos. Esto se debe en parte a que los mercados laborales arroceros son específicos de poblados individuales, y en cualquier poblado particular la demanda punta de mano de obra para el cultivo del arroz se limita a días en lugar de meses. Es menester realizar un trabajo más amplio con respecto a la diferencia estacional en los rendimientos de la mano de obra entre el sector arrocerero y las actividades marginales. No todos los estudios hechos sobre el terreno informan acerca de la magnitud de la diferencia por temporada, pero la diferencia da la impresión de que aparece sólo en los estudios que se confinan a la temporada punta 1/.

16. Puede decirse, así, que en la zona rural de Java existe excedente de mano de obra en el sentido limitado y particular de que hay un conglomerado de unidades laborales (en lugar de trabajadores) en actividades marginales con ingresos por hora apreciablemente menores que la tasa salarial arrocerera. La importancia macroeconómica de este modelo de mercado laboral es que ese conglomerado es potencialmente asequible al sector arrocerero al salario arrocerero prevaleciente (más alto). Dada esta oferta perfectamente elástica de mano de obra para el sector arrocerero, la producción por trabajador puede incrementarse en arroz durante un período sin que se ejerza presión en las tasas de salarios aun cuando no haya cambios técnicos que economicen mano de obra. Entonces se plantea la cuestión: ¿por qué los terratenientes que buscan obtener utilidades pagan a la mano de obra que trabaja en sus campos un salario más alto del que perciben los trabajadores en las actividades marginales? Es probable que la respuesta estribe en la relación de eficiencia en función del salario, es decir, el efecto de incentivo que ejercen los salarios altos en la intensidad del esfuerzo de los trabajadores. A partir de un rendimiento bajo para la mano de obra empleada por su propia cuenta en actividades

1/ En la mayoría de las economías de poblado habrá, en parte, una escala de ingresos tanto en las actividades arroceras como en las marginales. El modelo de nivel doble con diferentes ingresos medios es un hecho convencional que subraya la importancia de las actividades marginales como depósito del "excedente" de mano de obra.

marginales, la eficiencia de un trabajador se incrementa en grado más que proporcional a medida que aumenta el salario ofrecido, hasta llegar a un punto de inflexión, pasado el cual la eficiencia se incrementa en escala menor que proporcional. Por consiguiente, hay un nivel de salario --más alto que el rendimiento de la mano de obra en actividades marginales-- al cual el costo salarial por unidad de mano de obra (en unidades de eficiencia) se minimiza desde el punto de vista de los empleadores. Ningún empleador que busque la maximización de utilidades ofrecerá un salario más bajo que ése, aun cuando haya una oferta abundante de mano de obra a ese salario. Pudiera parecer por este argumento que de hecho se establece el salario más alto para atraer mano de obra más eficiente. Pero la cuestión fundamental es que la dirección de la causalidad va del salario a la eficiencia, en lugar de ser a la inversa. A un salario más alto (hasta el punto de inflexión) a todo el mundo, más o menos, que se le ofrece un empleo lo desempeña a un nivel de eficiencia proporcionalmente más alto. Toda vez que hay una oferta abundante de mano de obra al salario mínimo (lo cual minimiza el costo salarial), los empleadores deben seleccionar algunos trabajadores de preferencia a otros. En los estudios sobre el terreno llevados a cabo en la zona rural de Java se ha mencionado en forma constante la importancia del sistema de la red social que establece reglas de contratación preferencial para los trabajadores empleados en el sector arrocero.

17. Ya se ha expuesto que los mercados laborales rurales en Java (al igual que en otros países asiáticos) son específicos de los poblados. Así, el salario de eficiencia que establece el salario mínimo en las operaciones agrícolas está vinculado a la norma correspondiente al poblado particular y refleja sus condiciones económicas. En el sector rural se observan variaciones entre poblados en los salarios agrícolas con respecto a la misma temporada u ocupación. Por lo tanto, la constancia del salario real en el curso del tiempo significa que la banda de tasas salariales correspondientes a una ocupación particular no se ha desplazado de manera perceptible en sentido ascendente, pese al incremento en producción por trabajador. No esperamos un movimiento alcista de la banda hasta que la demanda de crecimiento de la mano de obra agrícola a una tasa suficientemente elevada, en relación con la oferta, cause una reducción significativa en el conglomerado de mano de obra que se ocupa en actividades marginales.

18. Los mercados laborales urbano y rural están vinculados por dos tipos diferentes de migrantes: los circulares que de manera temporal entran a las ciudades y salen de ellas sin sus familias, y los inmigrantes más permanentes que llegan a las zonas urbanas con sus familias. Los primeros se encuentran en gran parte en el sector no estructurado del mercado laboral urbano y, aunque los datos acerca de los ingresos en ese sector son muy deficientes, podemos esperar que la migración circular mantenga razonablemente cercanos los rendimientos de la mano de obra en el sector no estructurado urbano y en las actividades marginales rurales, después de tener en cuenta las diferencias en el costo de vida y los costos de transporte. Fuera del sector no estructurado, puede esperarse

que la relación de eficiencia en función del salario se conserve tanto para el empleo asalariado urbano como para la mano de obra contratada en la agricultura. En realidad, una hipótesis razonable es que la relación entre los salarios y la eficiencia será más firme cuanto mayor sea la magnitud del empleo y más compleja la organización de la unidad de contratación. Se ha observado en muchos países en desarrollo (incluido el Japón durante su período de desarrollo) que los salarios en el sector manufacturero de la mano de obra no especializada aumentan con el tamaño de la empresa, aun cuando no haya sindicatos ni legislación gubernamental. Indonesia no es diferente de la norma general de comportamiento del salario urbano. En el Capítulo 3 se presentan pruebas de que hay una escala de salarios para los trabajadores no especializados en las entidades manufactureras urbanas en que las empresas pequeñas no mecanizadas se encuentran en el escalón inferior y las "empresas conjuntas" o multinacionales figuran en la parte superior. El margen salarial entre ambas llega hasta el 250%.

El salario de cuenta

19. El modelo del mercado laboral anterior implica que el salario de cuenta para los proyectos rurales debe calcularse sobre la base del costo de oportunidad de emplear una unidad de mano de obra no especializada, es decir, el rendimiento de la mano de obra en las actividades rurales marginales. Los estudios realizados sobre el terreno indican que en Java ese rendimiento puede ser de apenas un tercio del salario agrícola arrocero. Teniendo en cuenta el costo social del mayor consumo por la unidad familiar representativa rural que suministra la mano de obra, se calculó que el salario de cuenta sería el 28% del salario agrícola. Según se examina abajo, y en el texto principal, esta declaración tiene que ser condicionada por el hecho de que los datos acerca de los ingresos estacionales son todavía muy escasos en Indonesia.

Perspectivas en relación con el empleo y los salarios

20. Fundamentado en tendencias históricas, en el informe se proyecta un crecimiento de la fuerza laboral de alrededor del 2,6% anual hasta 1990. ¿Será absorbido este incremento de la mano de obra por la mayor demanda en el curso de la próxima década, y a qué nivel salarial? Esta es la cuestión central que se plantea a propósito de las perspectivas de crecimiento del empleo en Indonesia. En el presente informe se ha utilizado el concepto del punto de inflexión (relacionado con el agotamiento de un "excedente" de mano de obra, tal como se define en la página 11) al examinar las perspectivas de empleo en Indonesia.

21. Las pruebas históricas relativas a dos economías arroceras asiáticas --el Japón y Corea-- examinadas en el Capítulo 4 muestran que ambas economías tuvieron un período de crecimiento sostenido de la producción por trabajador en la agricultura, con escaso o ningún crecimiento real de los salarios reales en ese sector. Ese período de crecimiento a salarios casi constantes (en la agricultura) se prolongó en

el caso del Japón (50 años o más) incrementándose la producción por trabajador sólo a una tasa moderada, y fue sustancialmente más breve en lo que se refiere a Corea, con un crecimiento mucho más rápido de la productividad agrícola durante el período de transición hasta el punto de inflexión. Pero éste, en ambos casos, se identifica como un hecho histórico, como un "retorcimiento" claramente reconocible en la tendencia temporal de los salarios reales de la agricultura. Después de un período relativamente largo durante el cual los salarios reales crecieron con mucha lentitud, éstos se incrementaron a un ritmo de seis a diez veces mayor que el observado con anterioridad.

22. La significación del punto de inflexión en lo relativo al bienestar es que antes de que se llegue a él, la parte de la producción que va a los salarios desciende en forma constante debido a que la productividad de la mano de obra crece con más velocidad que los salarios. Dado que la mecanización no es un factor de importancia en la agricultura asiática antes del punto de inflexión, gran parte de la diferencia entre la productividad de la mano de obra y los salarios se refleja en un incremento en la proporción de las rentas y las utilidades. El segundo aspecto importante de la "filtración gradual" del incremento de la productividad agrícola es determinar si la economía se encuentra en un sendero de crecimiento que tal vez llegue pronto al punto de inflexión. Si la economía se halla en tal período de transición, una mayor proporción de la mano de obra de los trabajadores que dependen de la agricultura como su principal ocupación se desviará de las actividades marginales hacia la agricultura. Al percibir en ésta ingresos por hora más elevados, la remuneración por trabajador aumentará con el tiempo aun cuando las tasas de salarios se mantengan constantes en la agricultura. Asimismo, en el período de transición los dos países examinados en el Capítulo 4 --el Japón y Corea-- experimentaron una acentuada desviación de la agricultura hacia las manufacturas donde los salarios eran más elevados (reduciéndose de hecho el número absoluto de trabajadores en la agricultura durante partes del período de transición). Tal reasignación de la mano de obra también incrementa los ingresos por trabajador en el tiempo para la economía en conjunto, hasta el punto de inflexión, incluso con tasas constantes de salarios reales en los sectores individuales.

23. Las pruebas presentadas en este informe indican que Indonesia no ha pasado todavía tal punto de inflexión. No hay pruebas de presión sustancial alguna de signo ascendente sobre los salarios reales, pese a un apreciable incremento en la producción por trabajador en la agricultura durante la década pasada. ¿Pero hay alguna prueba de que Indonesia (o más concretamente Java) se haya encontrado en un sendero de crecimiento que esté acercando a la economía al punto de inflexión? Las pruebas acerca de esta pregunta son mucho más difíciles de evaluar. No poseemos datos acerca del número de horas trabajadas en la agricultura ni en las actividades marginales con respecto a trabajadores cuya actividad primaria es la agricultura. Desconocemos, pues, si la proporción de mano de obra dedicada a la agricultura se ha venido reduciendo con el tiempo, lo cual ocurriría si la economía estuviera acercándose al punto de inflexión.

Pero al limitar nuestra atención a la ocupación principal de la fuerza laboral, observamos que la fuente principal de empleo adicional para la creciente fuerza laboral la han constituido las actividades terciarias. La peculiaridad del crecimiento económico indonesio en la década pasada ha sido la relativa insignificancia del sector manufacturero en cuanto a proporcionar empleo adicional, en tanto que el crecimiento anual del número de trabajadores que dependen primordialmente de la agricultura se ha elevado en grado sustancial. Esta modalidad de cambio en la asignación sectorial de la mano de obra en el curso del tiempo ofrece un marcado contraste con la experiencia histórica del Japón y Corea durante sus períodos de transición hasta sus respectivos puntos de inflexión. En Indonesia la relación entre el empleo terciario incremental y el de la manufacturación ha sido de 4:1, en tanto que en las dos economías arroceras "prósperas" fue entre 1:1 y 2:1. De manera análoga, el Japón y Corea tuvieron salidas significativamente más elevadas de mano de obra de la agricultura, aun cuando el crecimiento de la producción en ese sector fue sustancial.

24. El estudio histórico comparado indica que el sendero de crecimiento de Indonesia en la década pasada no está conduciendo hacia el punto de inflexión. Hay dos argumentos, sin embargo, que pudieran debilitar la fuerza de esta conclusión. Primero, Indonesia, a diferencia de los demás países, es una economía rica en petróleo, y el efecto multiplicador del gasto del sector público (financiado por los ingresos petroleros) pudiera ser particularmente vigoroso en la creación de empleo en actividades terciarias. Segundo, hay la posibilidad de que Indonesia esté más alejada de los márgenes extensivos e intensivos de cultivo que las demás economías, de modo que hay más ámbito para la absorción productiva de la mano de obra en la agricultura.

25. Ambos argumentos merecen indagarse más a fondo. En el presente informe no pueden darse respuestas definitivas con base en los datos existentes. En lo que se refiere al primer punto, hay la acentuada presunción de que la cuantiosa entrada de recursos a través del sector petrolero dio lugar directa e indirectamente a un crecimiento muy elevado en los ingresos. Una vez que se tienen en cuenta los efectos de la relación de intercambio, el ingreso nacional se elevó en alrededor del 10% anual en la década de 1970, y esto sin duda alguna hubiera dado lugar a una demanda sumamente dinámica de servicios. Sin embargo, el impacto final causado en el mercado laboral no está claro. Ya se ha mencionado que se necesitan con carácter de urgencia más datos --tanto estáticos como intertemporales-- en lo que se refiere a los ingresos de la mano de obra en el sector terciario. El estudio de las tendencias de los ingresos relativos en el sector terciario y en sus importantes subgrupos ayudaría a revelar si la mano de obra fue "empujada" al seno de este sector por la falta de oportunidades en otros sectores. Por el momento el informe sólo puede señalar a la atención la relación del incremento en el empleo terciario comparado con el empleo en el sector manufacturero en Indonesia, el que es extraordinariamente elevado comparado no sólo con el Japón y Corea durante sus períodos de transición, sino también con otros países en

desarrollo. Es claro, sin embargo, que la modalidad pasada de crecimiento no se repetirá en el futuro, dadas las perspectivas actuales que se le ofrecen al mercado petrolero internacional. Aun cuando la mano de obra fuese atraída a las actividades de servicio por los salarios más altos en la década de 1970, puede que esto no ocurra en la de 1980. Parece que hubo poco o ningún crecimiento del PIB en 1982 y 1983 y, aun con un programa eficaz de ajuste estructural para restaurar el crecimiento a plazo medio, es posible que la producción global correspondiente a la década se incremente en poco más del 5-6% anual. Sobre la base de tendencias pasadas en la absorción sectorial de la mano de obra, esto supondría un crecimiento del empleo de sólo el 2% anual, comparado con un aumento de la fuerza laboral del 2,6%. En ausencia de políticas compensadoras, esto indicaría un grave debilitamiento en las perspectivas del mercado laboral.

26. Volviendo a la cuestión de los márgenes de cultivo extensivo e intensivo en Java, los datos que se presentan en el Capítulo 4 muestran que la relación hombre-tierra (es decir, la relación entre la tierra de cultivo y la fuerza laboral agrícola) fue sustancialmente más baja en Java en 1971, que en Corea en la década de 1960, o incluso en el Japón durante gran parte de su período de transición desde comienzos de siglo. Los estudios agrícolas disponibles muestran también que el insumo de mano de obra, medido por días-hombre por hectárea (junto con el rendimiento de arroz con cáscara por hectárea), fue más alto en Java en 1971 que en Corea en el curso de la década de 1960. Parecería que, aunque todavía pudiera haber algunas zonas aisladas en Java en que la adición de más mano de obra podría incrementar la productividad y rentabilidad agrícolas, el país en conjunto es cultivado más intensamente que las otras dos economías arroceras durante sus períodos de transición. En el informe (Capítulo 4) también se examinan algunos cálculos basados en coeficientes típicos de tierra-mano de obra en Java con respecto a las cosechas más importantes cultivadas allí en 1979. Con base en estimaciones muy conservadoras puede indicarse que las necesidades de mano de obra en la agricultura javanesa fueron inferiores en alrededor del 20% a la oferta disponible de mano de obra agrícola (dándose por supuesto que cada trabajador aportó 200 días-hombre por hectárea). Esto concuerda con los datos obtenidos de estudios realizados sobre el terreno citados con anterioridad, los que indicaron que una porción considerable de mano de obra de los trabajadores agrícolas se dedica a actividades marginales. Hay otras dos cuestiones pertinentes: i) ¿cuánto tiempo podría sostenerse el crecimiento del 3,6% anual de la producción agrícola observado durante la última década en Java?, y ii) ¿llegarán a generalizarse más las prácticas de economía de mano de obra observadas en algunas partes de Java, junto con la comercialización acrecentada de la agricultura, reduciéndose así la demanda de mano de obra?

Repercusiones en materia de política

27. En el informe se proyectan grandes dudas en cuanto a si el crecimiento del empleo en la década de 1970 en la economía indonesia ha estado siguiendo un camino que eventualmente conduciría al punto de

inflexión. Dada la probabilidad de que los ingresos del sector petrolero sean más bajos y, por consiguiente, de un menor crecimiento global para el resto de la década de 1980, las perspectivas, basadas en tendencias pasadas, de absorción de la mano de obra son sombrías. La presunción de política que se infiere de esto es que deben adoptarse medidas a fin de dar al proceso de crecimiento una orientación hacia la utilización más intensiva de mano de obra. Este es un tema difícil y el presente informe, con su enfoque principal puesto en el análisis de los mercados laborales existentes y de las tendencias en el curso del tiempo, no cuenta con los medios cabales para dar respuesta. Ahora bien, de la conclusión básica se pueden esbozar ciertas repercusiones en materia de política.

28. El nivel y modalidad del gasto público pueden ejercer una influencia de importancia en la demanda de mano de obra. A corto plazo, las obras públicas con utilización intensiva de mano de obra, como en el caso de la infraestructura local de conformidad con los programas de INPRES, aportan una contribución directa al empleo y también pueden canalizar el ingreso hacia zonas rurales relativamente pobres, con efectos indirectos de creación de empleo. El mantener esas actividades revestirá importancia particular en el curso de los dos o tres años venideros cuando el Gobierno introduzca otras medidas de restricción de los gastos a fin de reducir el déficit externo. Esto llevará consigo el desplazamiento de gastos dentro del programa de inversiones públicas, desviándolos de las actividades en que se utilizan importaciones en escala intensiva a las de empleo relativamente intensivo de mano de obra. En mayo de 1983 el Gobierno anunció una reprogramación importante de los proyectos de inversión pública en gran escala, en que las economías obtenidas en rupias se reasignarían a gastos con un elevado contenido de empleo interno.

29. El nivel de absorción de mano de obra por la agricultura fue bajo en la década de 1970 en relación con los incrementos logrados en producción, pero su peso global en el empleo significa que su desempeño será esencial para el mercado laboral en general. En la década de 1980 es probable que, para mantener tasas anteriores de crecimiento de alrededor del 4% anual y también para proporcionar nuevo empleo, sea necesaria una mayor diversificación alejándose de la producción de arroz hacia actividades como la horticultura, algunos cultivos alimentarios secundarios, la ganadería y las pesquerías en pequeña escala. Además, la transmigración oficial y espontánea hacia las islas exteriores podría ejercer un efecto importante. Al ritmo actual de traslado de unas 100.000 familias por año, alrededor de una quinta parte del incremento de la fuerza laboral en Java podría ser absorbida por este mecanismo.

30. Las políticas relacionadas con el sector manufacturero desempeñarán una función cada vez más importante en la próxima década y las ulteriores. Según se examina en el Capítulo 4, este sector ha sido históricamente un elemento importante de absorción de mano de obra en economías arroceras prósperas. Indonesia ha sido poco común en el sentido de que ese sector ha representado una parte sumamente pequeña del empleo total y casi todo él se ha registrado en las industrias rurales de pequeña

escala. A fin de alentar la absorción de mano de obra, será menester introducir cierto grado de reorientación en el ambiente de política. Cabe señalar, en particular, que Indonesia ya se encuentra cerca de los límites de la sustitución de importaciones en las industrias de bienes de consumo en que se utiliza mano de obra en escala intensiva y, aparte del crecimiento relativamente lento de la demanda final, el logro de nuevos incrementos en la producción para el mercado interno tendrá que provenir de las industrias de bienes de producción que emplean capital en grado mucho más intensivo. Esto subraya la necesidad de formular políticas industriales en las que se haga hincapié en la orientación hacia la exportación, en especial de bienes de consumo, mediante la aplicación de medidas para reducir el actual sesgo hacia la sustitución de importaciones y de medidas específicas de promoción de las exportaciones. El desarrollo del sector manufacturero en pequeña escala también puede ser motivo de preocupación, ya que existe la posibilidad de que éste sufra descensos en la producción como consecuencia de la competencia de los sectores más productivos que operan en escala mediana y grande. En el presente informe no se trató de estudiar medidas para apoyar a las pequeñas industrias, ni los costos de proteger a los subsectores que utilizan mano de obra en escala intensiva. El análisis futuro de este tema debería concentrar la atención en la gran diferencia salarial existente entre las empresas que operan en pequeña y en gran escala, como se examina en el Capítulo 3. Puede que haya que hacer una elección económica entre emplear un pequeño número de trabajadores a un salario relativamente elevado o un gran número de ellos a un salario más bajo.

31. Finalmente, los precios de factores en el mercado no dan la guía correcta para determinar la intensidad de la mano de obra en proyectos específicos de inversión. Será necesario elaborar instrumentos de política para compensar esto. Ya se ha mencionado como uno de esos instrumentos la utilización apropiada del salario de cuenta en la evaluación de proyectos de inversión pública. A este propósito cabe subrayar un punto de cierta importancia. En la práctica, los estudios de evaluación de proyectos usualmente asignan un precio de cuenta a la mano de obra en una fase un tanto tardía en el proceso de formulación de decisiones, cuando la elección entre alternativas es afectada sólo marginalmente por el precio contable apropiado de la mano de obra. Por lo tanto, la consideración directa de alternativas específicas del sector debe suplementar la utilización del salario de cuenta si desea darse importancia más amplia a una estrategia de desarrollo de utilización intensiva de mano de obra.

32. Un factor igualmente importante --y que desde el punto de vista empírico pudiera ser más significativo-- que hace que los precios de mercado transmitan una señal errónea a la elección de técnicas es la fijación de precio inferior al capital, por lo menos en algunas zonas importantes de la economía. Por ejemplo, la utilización amplia de tractores pudiera parecer rentable a los precios de mercado vigentes, pero no ser productiva desde el punto de vista social si se utilizaran precios

contables apropiados para el trabajo y el capital ^{1/}, a menos que investigaciones específicas revelaran segmentos de escasez de mano de obra en zonas particulares.

Trabajo ulterior acerca del empleo y el ingreso de la mano de obra en Indonesia

33. Aunque en el informe se subraya que un modelo del mercado laboral basado en una hipótesis de mano de obra excedente en el sector rural (y en la idea asociada de que el sector arrocero productivo es un sector privilegiado desde el punto de vista de quienes buscan empleo) es directamente pertinente para comprender el desarrollo indonesio, no se llega en él a la conclusión de que ese modelo ha sido en verdad sometido a prueba y verificado. Es necesario trabajar más y someter a prueba modelos alternativos de mercado laboral, a niveles tanto micro como macro. En el Apéndice A del Capítulo 3 se presentan ideas teóricas acerca de micromodelos alternativos del mercado laboral rural, y se examina hasta qué punto se pueden utilizar los datos empíricos existentes para apoyar el modelo del "excedente" laboral. En el Anexo del presente informe se explora si las amplias tendencias macroeconómicas del desarrollo indonesio encajan en el marco de los modelos neoclásicos agregativos y también se busca establecer gamas de valores con respecto a parámetros clave que estén en consonancia con la experiencia real. En este contexto se estudia la aplicabilidad del modelo alternativo del excedente laboral para la interpretación de las tendencias macro.

34. En el informe se recomienda que se haga más trabajo empírico con objeto de observar en forma directa el funcionamiento de los mercados laborales. Con respecto a éstos en las zonas rurales, las siguientes son esferas importantes de investigación:

i) La demanda de mano de obra en la agricultura javanesa depende de la índole de la temporada dinámica, comparada con la de menor actividad. ¿Cuál es la duración de la temporada dinámica y cómo afecta a diferentes aspectos de la fuerza laboral? ¿Cuál es la proporción de tiempo de trabajo dedicado al sector (productivo) arrocero y a las actividades marginales, para grupos significativos de edad y sexo distinguidos por su situación económica? ¿Los ingresos por hora en actividades marginales son sustancialmente más bajos que en el sector arrocero en la temporada dinámica, al igual que lo son con respecto al año en conjunto? Ya se dispone de mucha información acerca de estas preguntas en estudios de poblado terminados, pero no se ha analizado o bien no está compilada en forma adecuada para dar respuesta a esas preguntas. Por lo tanto, un estudio más cuidadoso de los datos micro ya recopilados en relación con poblados individuales es una tarea de alta prioridad.

^{1/} Véase el estudio de Rudolph S. Sinaga, "Implications of Agricultural Mechanization for Employment and Income Distribution", Rural Dynamics Study Series, No. 2, Bogor.

ii) Es claro que las variaciones regionales o incluso de un poblado a otro en lo que se refiera a las condiciones del mercado laboral revisten importancia sustancial en Java, lo mismo que en todas las sociedades rurales asiáticas. Algunos poblados pueden en realidad ser más a propósito que otros para el modelo del excedente laboral. En el análisis ulterior de los datos a nivel de poblado debe fijarse la atención con firmeza en este punto. Incluso si no se dispone de estudios detallados de poblados en número suficiente, un análisis representativo de variaciones entre poblados de salarios en ocupaciones seleccionadas, y su relación con las condiciones económicas subyacentes en los poblados, sería probablemente muy revelador.

iii) A nivel macro, en el informe se hace hincapié en la necesidad de estudiar más series sobre las fluctuaciones en las tasas de salarios, en particular en la agricultura. De nuevo en este caso, no se puede insistir demasiado en la importancia de analizar las tendencias de los salarios y el empleo sobre una base regional. Los datos del censo de 1980 deben proporcionar un gran acervo de información acerca de las tendencias del empleo regional durante la década de 1970 cuando se utiliza en conjunción con otras fuentes de datos estadísticos, incluido el censo de 1971.

iv) Una zona igualmente importante de información la constituyen el nivel y tendencias de los ingresos en los sectores no estructurados muy grandes, en particular en las actividades de servicios. Si bien un análisis más completo de las encuestas de unidades familiares existentes proyectaría más luz sobre esta cuestión, la prevalencia de ocupaciones múltiples en Indonesia, sobre todo en el sector rural, exige la preparación cuidadosa de cuestionarios para futuras encuestas de unidades familiares. Debe hacerse un intento por recopilar información acerca de las horas trabajadas y los ingresos percibidos en las diferentes actividades desplegadas por los trabajadores, en lugar de limitar la indagación a la principal actividad de la persona encuestada.

v) También es importante ir más allá de la vinculación existente entre salarios, empleo y producción tal como se examinan en el presente informe. Por ejemplo, la tierra y el crédito son factores clave, pero los datos actuales y el estado de conocimientos han impedido la consideración sistemática de los vínculos entre mercados de factores de producción (tierra, capital y trabajo) y de la función que el crédito y el financiamiento desempeñan, en un sentido amplio, en esos vínculos. El recopilar información estadística adicional a nivel de poblado, que es lo que se recomienda en este informe, debe llevarse a cabo con la mira de facilitar estudios de las vinculaciones entre los mercados de factores de producción y la función del crédito.

CHAPTER 1

STRUCTURE OF THE LABOR FORCE, EMPLOYMENT AND LABOR INCOMES IN 1977

1.01 The purpose of this chapter is to set the scene for the analysis of labor markets and employment in subsequent chapters. A few of the salient features regarding the use of labor in economic activity in Indonesia around 1977 will be discussed. 1977 was selected because it represented the latest completed and revised data from the annual Labor Force Survey (SAKERNAS) when this report was being written. Examination of later data from the SAKERNAS of 1979 or the Census of 1980 revealed that the differences were not large enough to merit a complete revision of this Chapter.

1.02 The population of Indonesia was not very urbanized by 1977. According to SAKERNAS data, only 18% of the population lived in urban areas. Along with other Asian countries, Indonesia has a young population - about 30% are under 10. But unlike some other developing countries, the age structure of the population does not differ markedly between the urban and rural areas. This is because rural/urban migration does not consist of large numbers of people of prime age living temporarily in the urban areas.

1.03 A significant feature, both in the analysis of the labor market and in the study of trends in labor earnings, is the expansion of formal education. We begin, therefore, by looking at the quantitative picture of the educational profile of the population in 1977.

The Educational Attainment of the Population

1.04 Appendix Tables IB.4 and IB.5 present the educational distribution of the population by age and sex. There has been, as might be expected, a marked upgrading of education, but the tables reveal important differences between the urban and rural areas. The major points can be underlined by the figures set out in Table 1.1 which contrast the educational profile of the younger age groups with that of the 30-49 age group.

1.05 The figures reveal a very large increase in primary education, resulting in a jump in the proportion of young people with a primary education to more than 75% in urban areas, and 50% in rural areas. The expansion of secondary education is very much an urban phenomenon. A substantial proportion of the young urban population - a third of the males and a fifth of the females - had senior high school education or above. But the comparable populations in the rural areas continued to be very small.

Table 1.1: PERCENTAGES OF THE POPULATION WITH MORE THAN A SPECIFIED EDUCATIONAL LEVEL BY AGE, SEX AND LOCATION, 1977

	Completed primary & above	Junior high school & above	Senior high school & above
<u>Urban Males</u>			
15-19	80.2	38.4	5.0
20-24	82.1	52.0	32.3
30-49	64.0	31.9	6.5
<u>Urban Females</u>			
15-19	73.5	32.1	4.5
20-24	70.3	38.1	21.4
30-49	41.5	19.7	8.7
<u>Rural Males</u>			
15-19	60.5	14.4	7.7
20-24	60.9	19.3	5.0
30-49	35.8	6.5	3.2
<u>Rural Females</u>			
15-19	51.5	18.0	2.9
20-24	43.2	7.7	1.9
30-49	15.2	2.4	0.6

Source: SAKERNAS, 1977.

1.06 As we shall see in the following sections, the higher educational level of the urban population has a pronounced effect on participation and unemployment.

Participation Rates

1.07 Table 1.2 gives the participation rates by age, sex and location for all Indonesia. In view of the importance of the quantitative data on participation rates for the subsequent analysis of labor free growth and employment in the next chapter, two sets of figures are given - one from the Labor Force Survey of 1977-78, and the other from the sample population of the Population Census of 1980. The pattern of participation rates reported by the two sources are very similar; differences by age-group, sex and location are much the same. But the participation rates derived from the Census tabulations are systematically lower. This difference between the Population Census and Labor Force Surveys in counting the economically active has been noted in many countries, and can be traced in part to the fact that sample surveys will generally make a more concentrated effort to locate specific groups in the labor force.

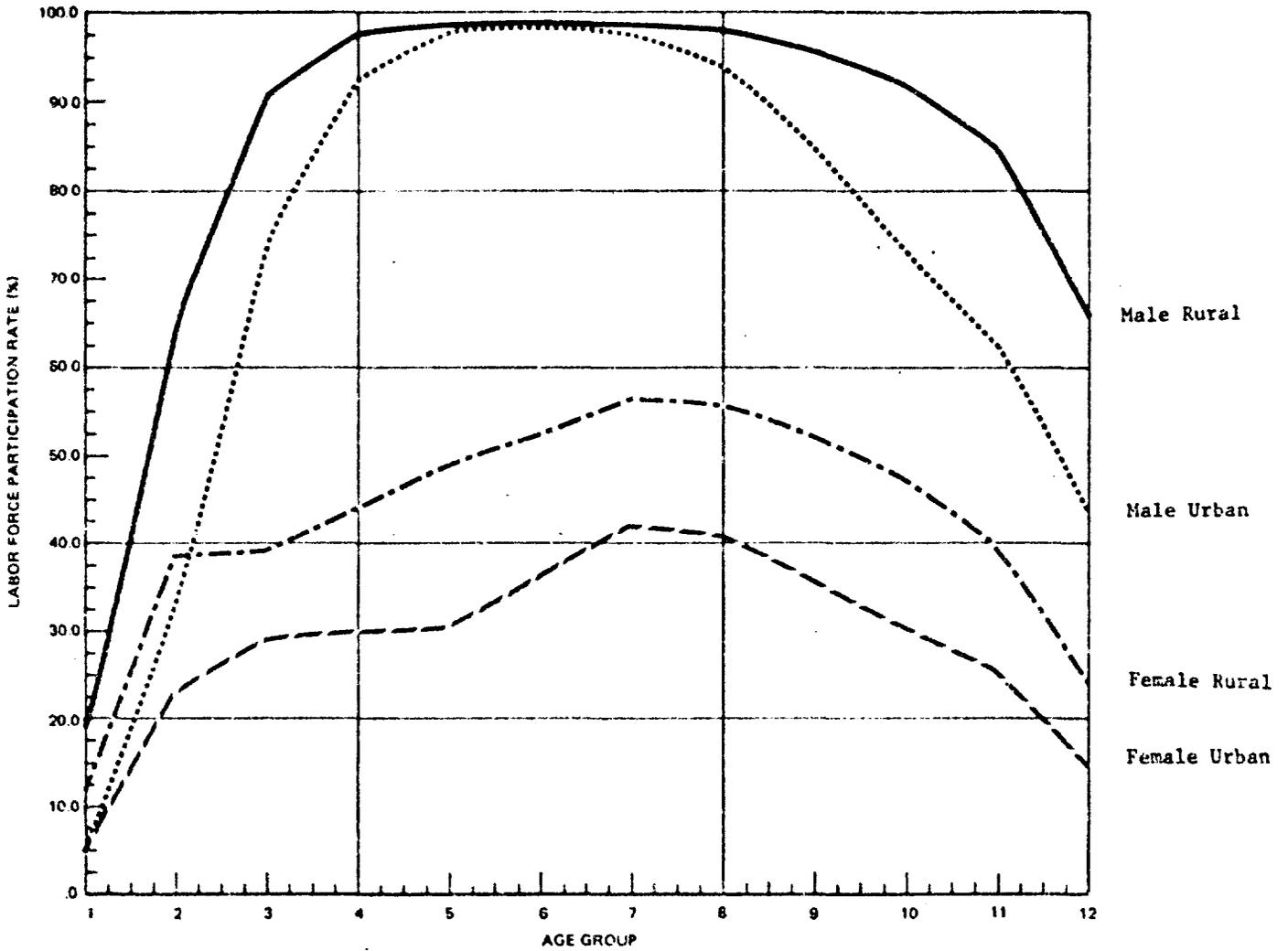
Table 1.2: LABOR FORCE PARTICIPATION RATES BY AGE, SEX AND LOCATION, INDONESIA, 1977/78

Age group	Urban		Rural	
	Male	Female	Male	Female
<u>A. Labor Force Survey, 1977/78</u>				
10-14	4.8	4.7	19.4	11.4
15-19	33.9	23.2	65.4	39.1
20-24	74.9	29.4	90.9	39.4
25-29	92.8	30.1	97.8	44.4
30-49	97.3	37.6	98.7	53.8
50-59	80.6	34.4	94.6	51.3
60+	53.6	21.7	75.7	12.1
<u>Total</u>	<u>63.2</u>	<u>26.3</u>	<u>76.1</u>	<u>40.5</u>
<u>B. Population Census, 1980</u>				
10-14	3.3	4.7	15.2	10.9
15-19	27.2	22.3	54.8	34.4
20-24	67.5	27.0	84.2	35.4
25-29	89.5	28.0	93.1	38.6
30-49	95.1	32.7	94.9	45.4
50-59	79.6	32.6	90.0	45.6
60+	47.6	17.5	67.0	25.5
<u>Total</u>	<u>60.0</u>	<u>24.0</u>	<u>70.6</u>	<u>34.7</u>

Source: SAKERNAS, 1977.

1.08 Figure 1 charts the age-specific participation rates, separately for the sexes, and for rural and urban areas. The difference in the profiles for males and females is readily apparent. The graph of age-specific LFPRs for females in the rural areas lies more or less parallel, although above, the one in the urban sector. Female participation rates are higher by roughly the same percentage in the rural areas for all age groups. But for the males the rural-urban divergence occurs mainly at age groups below 30 and above 44.

FIGURE 1.1
MALE - FEMALE LABOR FORCE PARTICIPATION RATES, INDONESIA, 1977-78



See next page for Age Group Index

World Bank - 21760

Source: SAKERNAS, 1977.

Age Group Index

1	.....	10-14 years
2	.....	15-19 years
3	.....	20-24 years
4	.....	25-29 years
5	.....	30-34 years
6	.....	35-39 years
7	.....	40-44 years
8	.....	45-49 years
9	.....	50-54 years
10	.....	55-59 years
11	.....	60-64 years
12	.....	65+ years

Males

1.09 The relatively low participation rates of young males in urban areas is important. In particular, attention should be drawn to the fact that, even for the age group 20-24, only 75% of the population participated in market activity. This phenomenon represents the sluggishness of entry into the labor market for first-time job seekers 1/ and has been noticed in other Asian economies. This is a vital aspect of youth unemployment (see below), which is such an important part of the labor market in these economies. The difficulty of getting an acceptable first job is revealed partly in the high rate of open unemployment and partly in the high incidence of the discouraged worker's nonparticipation. As might be expected, this phenomenon is particularly important for the more educated members of the labor force. Relatively high expectations, as well as higher socioeconomic family conditions, of the educated tend to increase their minimum acceptable standards for a first job. By and large, the Indonesian data bear out this hypothesis. It will be seen from the Appendix Table IB.7 for males aged 20-24, that participation rates decrease drastically between primary and secondary education. It should be remembered that, with reasonable performance, secondary education should be completed well before age 20. In some cases, completing school education at such a late age is itself an aspect of "discouragement."

1.10 The relationship between education and LFPR for young males is, however, not monotonically decreasing. In particular, males aged 20-24 with no schooling have a substantially lower participation rate than those with elementary education - almost as low as those with junior secondary education. But the proportion of people with no schooling at all in this age group was very small, about 2%.

1/ Data on the occupation of the nonparticipants given in SAKERNAS show that as much as 20% of the urban males in the age group were attending school. But the official tertiary enrollment rate was only 2%. Thus we can conclude that many of the nonparticipants were really discouraged workers who were using nonformal education as a means of covering up their inactivity.

1.11 While the lower participation rates for urban males between 20-24 can largely be ascribed to the impact of educational expansion, the substantial rural/urban difference in the 15-19 age group cuts across all educational categories. Even for the numerically important group with some elementary education, LFPRs in the urban areas are some 20 percentage points lower. Evidently, the urban labor market works differently from the rural one and requires that young people, wait longer before getting their first job.

1.12 A sizeable proportion of the rural population in the 10-14 age group participates in economic activity. This reflects the nature of work organization among peasant families, in which all members of the household from an early age contribute to making a living.

1.13 At the other end of the age spectrum, early retirement is a feature of Indonesian urban labor markets. For males aged 50 and over, the LFPR is 17% lower in urban than rural areas (the rate in the latter being 84%). The difference is observed almost equally for all educational groups - except those with Academy or University qualifications.

Females

1.14 The graph of age-specific participation rates for females is relatively flat for both rural and urban areas. This profile contrasts not only with the male profile, but also with the typical profile for females in developed countries. In the United States for instance, before the First World War, there was a peak in the participation rates for females between 20-24, reflecting the withdrawal of females from the labor market following marriage. This has been replaced in the last decade or two by a double-peaked profile, the second peak coming in the age group 35-39, reflecting the return to work by married women after children have grown up. For various reasons which cannot be analyzed in detail here, the impact of the marriage and child-rearing cycles on females' LFPR is minimal in Indonesia, as in several other Asian countries.

1.15 The higher female LFPR in all ages observed in Indonesia in the rural areas, compared to the urban sector, is not a prevalent feature of all Asian economies. It does not seem to be the case in Thailand or the Philippines. ^{1/} It is, however, a feature of India.

^{1/} The female participation rates for female (all ages taken together) for these countries were as follows:

	<u>Rural</u>	<u>Urban</u>
Philippines	35.0	37.7
Thailand	41.8	40.5

(Source: Bureau of Census and Statistics Labor Force Survey, 1976, Philippines. Final Report of the Labor Force Survey, 1974, Thailand.)

In Sum

1.16 The lower rate of participation in the urban areas by both males and females (for specific ages for the former and for all ages for the latter) implies a higher dependency burden in the towns. Permanent migration from the rural to the urban sector (which is continuing in Indonesia) would require a wage gap in favor of the urban areas to compensate for the typically higher dependent-earner ratio in the urban sector. This will be important in discussing the urban wage structure in Chapter 3.

1.17 We turn now to a discussion of selected characteristics of the labor force in Indonesia - the unemployed and the employed.

Measured Unemployment in Indonesia

1.18 The SAKERNAS surveys of 1977/78 reported unemployment characteristics in Indonesia similar to those in neighboring countries. ^{1/} Open unemployment is very much an urban phenomenon. In the rural areas, unemployment was only 1.25% for females and about 2% for males. The respective unemployment rates for the two sexes in the urban sector was 4.6% and 6.7%, respectively. Secondly, in both sectors, but especially in the urban areas, open unemployment is concentrated in the younger age groups. As can be seen from the Appendix Table IB.9, the highest unemployment rate is observed for the 15-19 age group but the rates for the 10-14 and 20-24 age groups are also high. The figures are as follows:

Age group	Rate of Unemployment	
	Males	Females
10-14	17.4	7.1
15-19	25.3	11.8
20-24	18.0	12.5

Source: Appendix Table IB.9.

1.19 Youth unemployment in urban Indonesia is intimately connected with education. Table 1.3 shows that the unemployment rates for males with no schooling in the 10-14 and 15-19 age groups are quite high, but the absolute numbers in these cells are not large. Leaving aside these two observations, the unemployment rate increases systematically with higher educational levels for each age group. The same is true for females. Remarkably high

1/ The definition of those who were working was that they were at work for at least one hour a day during the past week. So the unemployed were those who were in the labor force and not working in this sense, and excluding those temporarily out of work.

unemployment rates are observed for those with senior high school qualifications. For both sexes, half of those between 15 and 19 participating in the labor force with this level of schooling are unemployed; and even in the 20-24 group the unemployment rate is more than 30%. The general phenomenon is common to many Asian economies, but the magnitude of unemployment rates in Indonesia is high. It is interesting to note that unemployment rates for those with post elementary education do not drop to "normal" levels until the 30+ age group. A sizeable proportion of the labor force with a secondary education or above is still searching for a job through their late 20s.

Table 1.3: URBAN MALE UNEMPLOYMENT RATES BY AGE AND EDUCATION, 1977
(%)

	Age group						All ages
	10-14	15-19	20-24	25-29	30-34	35-39	
No school	22.7	29.7	4.1	3.2	2.6	0.8	2.2
Not finished elementary	15.0	19.7	10.3	4.6	0.8	0.6	4.8
Elementary	38.4	24.1	13.0	3.0	1.2	0.3	6.2
General junior high	-	36.6	20.5	8.4	2.3	0.8	8.5
Vocational junior high	-	36.4	30.0	7.8	2.2	1.0	8.8
General senior high	-	51.9	29.7	8.7	2.3	2.3	9.0
Vocational senior high	-	58.5	32.5	5.1	2.0	0.9	12.5
Academy	-	-	21.5	14.4	1.0	0.8	3.8
University	-	-	0.0	10.6	2.5	0.0	1.7
All levels	21.8	25.8	18.4	5.7	1.6	0.7	6.4

Source: SAKERNAS, 1977.

Duration of Unemployment

1.20 A significant dimension of the unemployment problem is its duration. The data show that it is not very high: 84% and 70%, respectively, for rural and urban males are unemployed for less than one month; correspondingly, 76% and 72% of rural and urban females are unemployed for a month or less. ^{1/} Thus nonparticipation would seem to be the major indicator of underutilization of labor. Young persons are actively unemployed only for a short period once they enter the labor market. In fact, it seems likely that they do not actively search for a job until they feel that acceptable employment is likely to become available soon.

^{1/} SAKERNAS, 1977 (Average), pp. 205-213.

Underutilization of Urban Youth

1.21 The preceding paragraphs have emphasized a problem of underutilization of the young population in Indonesia - particularly in the urban areas. We should stress that young people between 15 and 24 constitute around 30% of the total population of 15 and above in Indonesia. Their inadequate utilization in gainful activity in the urban economy must be an important problem of employment in Indonesia. It has also been mentioned that the process of educational upgrading of the urban labor force might have had a significant influence on the degree of underutilization. To put the problem in perspective we have calculated the total rate of nonemployment (adding nonparticipation and active unemployment together) for the critical age groups 15-19 and 20-24 by different educational levels. Table 1.3 shows the total rate of nonemployment for each cell, and Table 1.4 gives the distribution of the total not employed in each age-sex group in the broad educational levels.

Table 1.4: RATE OF NONEMPLOYMENT /a OF YOUTH IN URBAN AREAS, 1977

Sex/age	No schooling	Elementary school		Junior high school	Senior high school	Academy & university	Total
		Incomplete	Complete				
<u>Males</u>							
15-19	52.4	51.8	70.7	92.0	84.4	n.a.	75.9
20-24	34.0	17.2	20.7	49.5	60.9	68.6	40.2
<u>Females</u>							
				Nearly			
15-19	53.3	67.9	83.0	100.0	92.6	n.a.	81.6
20-24	74.7	74.1	78.4	77.9	65.3	68.0	75.8

/a Nonparticipants plus unemployed as a proportion of the population of the particular cell.

Source: SAKERNAS, 1977.

1.22 It is clear that males in both age groups with secondary education have a higher rate of nonemployment than those with primary education. But this relationship is not as clear for females. A second important conclusion from Table 1.5 is that only among males in the 20-24 age group is a substantial proportion of the nonemployed accounted for by persons with a reasonably high education (i.e., senior high school). For the other age

sex/groups, those with primary education or less constitute the majority of young people without employment.

Table 1.5: PROPORTION OF EACH AGE-SEX GROUP WHICH IS NOT EMPLOYED BY EDUCATIONAL LEVEL, URBAN INDONESIA, 1977

Sex/age	No school	Elementary school		Junior high school	Senior high school	Academy & university
		Incomplete	Complete			
<u>Males</u>						
15-19	1.0	12.6	38.9	40.5	5.6	-
20-24	0.7	6.2	15.5	25.8	47.1	2.0
<u>Females</u>						
15-19	3.0	19.6	40.4	33.9	5.1	n.a.
20-24	5.8	23.3	33.2	17.1	17.4	1.1

Source: SAKERNAS, 1977.

1.23 The substantial underutilization of youth - even males in the 20-24 age groups - in urban Indonesia is an important feature of the labor market scene. Analytically, it suggests a market in which the pressure of new job seekers is only slowly relieved by market adjustments. In socioeconomic terms (apart from being a waste of human resources) it is a significant and potentially serious social problem. This phenomenon is not due entirely to the rapid increase of secondary education in urban areas. Also it must be stressed that the existence of a large "informal" sector in urban Indonesia does not lead to the quick absorption of freshers in the labor market.

The Employed Population

1.24 The major characteristic of the composition of industrial employment in Indonesia in the late 1970s is the small proportion of persons employed in manufacturing - around 10% (see Table IB.11). Agriculture accounted for 60% of total employment - somewhat more in outside Java. The importance of the tertiary sector - accounting for nearly a third of all employment - is also noteworthy. As we shall see in Chapter 2 the tertiary sector has been increasing in relative importance during Indonesia's recent growth.

1.25 The status composition of the employed population by industry is given in Table IB.13. Attention should be drawn to the following points. Wage earners (employees) constituted a quarter of the employed in agriculture. The importance of nonwage employment in the economy is brought out by the fact that, even in the manufacturing and the tertiary sectors, employees were about half of the total employed. A characteristic of tertiary employment is the large population of own account workers (a third of the total), underlying the importance of autonomous single workers in this sector.

1.26 The major importance of the tertiary sector in the Indonesian economy calls for further enquiry about the characteristics of this sector. Within the limits of the data available to the mission, only a few additional points can be made. Table 1.6 shows the percentage employed in this sector, separately for males and females, and for urban and rural areas.

Table 1.6: PERCENTAGE OF THE TOTAL EMPLOYED IN EACH CELL IN THE TERTIARY SECTOR, 1977 (All Sectors)

	Urban	Rural
Males	76.6	22.0
Females	74.6	22.0

Source: Appendix Table IB.11.

1.27 The differences in the importance of the tertiary sector vary with the location of employment, but not much with the sex of the person employed. Leaving agriculture aside, the tertiary sector accounted for 85% of total employment in the urban areas, and 74% in the rural.

1.28 Neither does the proportion of female workers within the tertiary sector vary much between the rural and the urban areas: it is 29% in the urban areas, and 34% in the rural. In sum: outside agriculture, tertiary employment is extremely significant in the Indonesian economy - equally in the rural and the urban areas, and for males as for females.

1.29 Some idea of the composition of the tertiary sector might be observed from Appendix Table IB.14 given for the urban areas. Almost all of the females employed in this sector fall into two broad categories - trade and services. Most of the males also fall into these two groups, but, in contrast to the females construction and transport provide a fair number of additional jobs for males (of the order of 20% of the total in the sector as a whole).

1.30 An important issue is that of labor earnings in the tertiary sector compared to the goods-producing sector. The question is critical to the issue of whether labor is being "pulled" into the tertiary sector by the process of Indonesian development, or being "pushed" into it because labor supply for traditional activities is outstripping demand. If it is the latter, we would expect labor earnings to be significantly lower in the tertiary sector compared to the other sectors, particularly agriculture. No detailed evidence exists on this question. The only source of data is the information on the earnings of employees in different sectors produced by the National Labor Force Survey (SAKERNAS). The summary statistics on the distribution of earnings in the different industries, by sex and location, are given in Appendix Table IB.12 for what they are worth. They show that at all points in the distribution for both males and females, and in the urban and rural areas the monthly income for employees in trade and services is higher than in

agriculture by a considerable margin, and it is more or less on a par with that in manufacturing. The fact that the income per employee at the first quartile of the distribution in the tertiary sector is twice that at the first quartile of the distribution in agriculture would, at first constitute clear evidence in support of the hypothesis that labor is being pulled to more lucrative jobs in trade and services. But unfortunately no such firm conclusion can be derived from the SAKERNAS data. Apart from the fact that the earnings data refer only to employees, the reported monthly income per employee is derived from the "main industry." As is well known - and we go into this point in greater detail in Chapter 3 - employees working for wages in agriculture devote only a portion of their time, perhaps 50% or less, to agriculture even when it is their main occupation. Multiplicity of occupation, is much more important for those whose principal source of livelihood is agriculture, particularly the landless or the nearly landless. It follows that the monthly income from the main occupation in agriculture reported in the SAKERNAS survey will not be comparable with the incomes of those whose main occupation is in the nonagricultural sector. The latter represents returns to labor from a larger amount of activity in the market. Verification of this point is provided by another set of data from the SAKERNAS survey reproduced in Appendix Table IB.11 which gives the distribution of the number of hours worked per employee by the main industry of employment. It will be seen that a quarter of the rural males, whose main activity in agriculture worked less than 24 hours per week, and as much as 37% of the rural females worked less than 24 hours. By contrast, in both manufacturing and tertiary sectors, the proportion of employees working less than 24 hours was 8% for rural males and 16% for rural females.^{1/} The difference between agriculture, on the one hand, and the nonagricultural sectors on the other, is equally striking for the urban areas.

1.31 The conclusion from the SAKERNAS survey data on the measurement of interindustrial income differences from is thus largely negative. But it is an important point, since at the moment in Indonesia such survey data are the only countrywide sources of earnings information. Without more careful design of the surveys, paying particular attention to multiple activities and hours worked, no inference on differences in returns to labor in different industries is possible. Yet, as we have seen, an assessment of the relative earnings in the tertiary sector is of utmost importance for the interpretation of recent Indonesian development.

1.32 In Chapter 3, we will be referring to some data from intensive field surveys by individual research workers. These studies shed some light on differences in returns to labor in different activities for those whose principal activity is agriculture. But even the individual field studies have little to say on earnings in the tertiary sector for those who depend on it as the major source of income.

^{1/} The data presented refer to hours worked in the main industry. This interpretation, although not explicitly stated in the SAKERNAS survey, is consistent with field workers' evidence cited in Chapter 3.

Rural/Urban Earnings Differential

1.33 A question of some importance which comes up at various points is that of the rural-urban wage differential. As already mentioned, the SAKERNAS earnings data pertaining to agriculture cannot be used for this purpose. But in other industries, employees' earnings, from activities other than the main one are presumably much smaller. Some comparison of earnings in rural and urban areas in the nonagricultural industries can be made tentatively from the SAKERNAS data. The mean urban earnings relative to those in the rural areas are as given in Table 1.7.

Table 1.7: RELATIVE MEAN EARNINGS IN THE URBAN AREAS (RURAL = 100)

Industry	Males	Females
Manufacturing	171	171
Construction	139	153
Trade	221	175
Transport	145	371
Services	137	139

Source: Appendix Table IB.12.

1.34 There would seem to be a sizeable differential in labor earnings in favor of urban areas. On the one hand, the importance of circular migration and "commuter" labor tends to keep the urban-rural differential low compared to many other economies. (This point is discussed more fully in Chapter 3.) But the higher burden of dependence in the urban economy for permanent migrants, and the evidence already presented regarding youth unemployment are consistent with a significant rural-urban wage gap.

1.35 But the differences in mean earnings between rural-urban areas in Table 1.7 do not correct for differences in skill-mix. For males, the urban-rural differential is the least in construction and services. This is probably because the rural-urban differential in the skill mix is least in these two sectors. In trade, the earnings differential is the highest. Here, the structure of the activity and, hence the skill-mix differs substantially between rural and urban areas. Finally, the figures on earnings differentials do not take into account the cost of living difference between the two sectors.

Seasonal Changes in the Labor Force Participation Rate

1. Previous World Bank reports have emphasized seasonal changes in agricultural employment in Indonesia, as an indication of the "high degree of responsiveness of the labor force to seasonal changes in labor market conditions."^{1/} The evidence cited is the decline by about 6 million people in agricultural employment between March 1976 (information from SUPAS, the Intercensal Labor Force Survey) and October 1976 (Information from SAKERNAS, the labor force survey for September-December 1976). Attention was concentrated on whether the supply of labor at the peak season was drawn from unpaid family labor or hired labor. Some attention should have been devoted to whether the recorded decline in employment could have been attributed to definitional changes between the two sources rather than to seasonal variation in the labor force. The reason to look for definitional changes is the reported decline of 4 million workers in the rural female labor force between March and October 1976 - the group for which work and housekeeping are difficult to distinguish.

2. A clue to the effect that definitional changes may have had, is contained in the SUPAS and SAKERNAS data. The reported decline in agricultural employment occurred during the reference week in both sources. In an attempt to eliminate seasonal fluctuations, both sources asked respondents about usual activity (i.e., the activity during the year preceding the enumeration) as opposed to current activity (i.e., the activity during the previous week). Data on usual activity should be free from seasonality effects. But, in fact, the rural female labor force according to usual activity is still higher, by 5 million, in SUPAS (March 1976) than in SAKERNAS (October 1976) ^{2/}

3. This appendix throws additional light on seasonal changes in participation rates in Indonesia, using available information for the years 1976, 1977, 1978 and 1979. Table IA.1 contains the participation rates by sex, in rural and urban areas, for each of the three years, at the peak and the slack seasons. The main point is that the measured change in the participation rate for rural females in 1976 is way out of line relative to the change in 1977, 1978 and 1979. In these three years, the maximum difference between the peak and slack rates is 4 percentage points in 1978, and the minimum just over 1 percentage point in 1979. The differences reported in SAKERNAS are nowhere near the difference of 11 percentage points given for 1978.

^{1/} /See World Bank (1979), Report No. 2093-IND, p. 43, paragraph 2.52.

^{2/} This has been pointed out by R.M. Sundrum, Australian National University, unpublished manuscript, November 1979.

Table IA.1: SEASONAL VARIATIONS IN LABOR FORCE PARTICIPATION RATES,
INDONESIA, FIRST QUARTER 1976 THORUGH FOURTH QUARTER 1978
(%)

Year/Quarter	Urban		Rural	
	Male	Female	Male	Female
<u>1976</u>				
I	65.2	26.5	79.8	51.0
IV	63.2	25.1	76.3	39.5
<u>1977</u>				
I	62.7	24.8	76.0	40.6
IV	61.4	24.4	74.5	37.0
<u>1978</u>				
I	65.5	28.6	77.6	44.2
IV	62.9	28.1	75.3	40.3
<u>1979</u>				
I	64.4	26.8	77.6	40.3
IV	61.9	23.8	76.5	39.1

Sources: First quarter 1976, SUPAS, VP78-01, Table 02; fourth quarter 1976, SAKERNAS 1976, VUS 78-22, Tables 01.1, 01.2, 01.4, 01.5; first quarter 1977 through fourth quarter 1979, SAKERNAS 1977, 1978, 1979.

4. A second point is that seasonal change in the participation rate for rural males is of the order of 1-2 percentage points, rather than 3.5, as in 1976.

5. A third point, much less important quantitatively, is that the rates for urban males show some seasonal change, slightly more pronounced than the changes for urban females.

6. Information about seasonal changes in the age-specific participation rates for each of the four labor force groups can be obtained from Chapter 2, Table IIC.1.

DATA

Table IB.1: POPULATION (IN MILLIONS) BY REGION AND LOCATION, 1977

	Java	Outside Java	Indonesia
<u>Urban</u>			
All ages	15.6	9.0	24.6
10 and over	11.4	6.3	17.7
<u>Rural</u>			
All ages	69.5	39.9	109.3
10 and over	50.5	27.7	78.2
<u>Total</u>			
All ages	85.1	48.9	133.9
10 and over	61.9	34.0	95.9

Source: Appendix Tables IB.2 and IB.3.

Table IB.2: AGE AND SEX DISTRIBUTION OF THE POPULATION BY REGION, 1977

Age Group	Indonesia		Java		Outside Java	
	Male	Female	Male	Female	Male	Female
0-4	14.9	14.2	14.1	13.3	16.3	15.9
5-9	14.0	13.7	13.7	13.3	14.4	14.3
10-14	12.8	12.5	12.8	12.3	12.8	12.8
15-19	11.1	10.6	11.1	10.6	11.0	10.6
20-24	9.2	9.2	9.2	9.0	9.4	9.5
25-29	6.5	6.8	6.3	6.7	6.8	7.1
30-34	5.7	5.8	5.6	6.0	5.7	5.3
35-39	5.9	5.9	6.0	6.3	5.8	5.3
40-44	5.2	5.1	5.6	5.5	4.4	4.4
45-49	4.2	4.2	4.6	4.6	3.5	3.7
50-54	3.4	3.5	3.7	3.7	2.9	3.2
55-59	2.6	2.9	2.8	3.0	2.4	2.6
60-64	1.9	2.2	1.9	2.3	1.8	2.1
65+	2.6	-	-	-	-	-
Total	100	100	100	100	100	100
	(66221)	(67719)	(41791)	(43284)	(24430)	(24435)

Note: Numbers in parenthesis denote population, in thousands.

Source: BPS, Proyeksi Penduduk Indonesia, 1976-20001, VP78-06, Tables 6.1, 6.2 and 6.3.

Table IB.3 AGE AND SEX DISTRIBUTION OF THE POPULATION, BY REGION AND LOCATION

Age Group	Urban		Rural		Urban		Rural	
	Male	Female	Male	Female	Male	Female	Male	Female
<10	28.0	26.1	28.8	27.8	31.1	29.2	31.5	30.8
10-14	13.0	12.4	13.3	11.4	14.0	13.0	14.1	12.2
15-19	11.5	11.8	10.5	8.8	11.1	12.1	10.8	10.5
20-24	8.7	9.6	5.9	7.2	7.6	9.5	6.6	7.7
25-29	6.6	7.2	6.1	7.5	7.0	7.9	5.9	7.4
30-34	5.7	6.4	5.3	6.4	5.8	5.9	5.2	6.5
35-39	6.5	6.8	7.1	7.6	6.2	6.0	6.3	6.8
40-44	5.4	5.3	5.8	6.3	4.6	4.5	5.2	5.1
45-64	12.4	11.7	14.4	13.7	10.6	9.6	11.9	10.6
65+	2.1	2.7	2.7	3.2	1.9	2.2	2.6	2.5
Total	100	100	100	100	100	100	100	100
	(7601)	(7819)	(33788)	(34896)	4512	4478	18386	18289

Note: Numbers in parenthesis denote population, in thousands.

Source: BPS, Labor Force Situation in Indonesia, The Average, 1977, VUS 79-28, Tables 26.1, 26.2, 26.4 and 26.5.

Table IB.4: EDUCATIONAL ATTAINMENT OF THE POPULATION BY AGE GROUPS, 1977
URBAN

Age Group	No School	Elementary School		Junior High School (SLA)			Senior High School (SLP)			Academy	University	Total
		Incomplete	Complete	General	Vocational	Total	General	Vocational	Total			
Male												
10-14	1.94	75.20	21.87	0.82	0.13	0.95						100.00
15-19	1.42	18.39	41.76	29.34	4.05	33.40	3.29	1.75	5.04			100.00
20-24	2.15	14.55	30.10	16.64	4.30	20.93	19.07	12.02	31.08	1.13	0.06	100.00
25-29	2.54	16.06	32.04	13.88	3.94	17.82	16.11	10.31	26.42	4.40	0.71	100.00
30-49	7.55	22.64	32.10	12.55	3.63	16.18	10.16	5.58	15.73	3.37	2.43	100.00
50+	24.68	27.69	30.33	8.04	2.72	10.76	3.36	1.45	4.81	0.84	0.83	100.00
Total	6.68	30.98	31.24	13.03	3.02	16.06	7.84	4.57	12.41	1.69	0.93	100.00
Female												
10-14	2.93	73.10	23.12	0.70	0.12	0.82						100.00
15-19	4.63	23.53	39.68	24.65	3.00	27.64	3.23	1.25	4.48			100.00
20-24	5.89	23.80	32.13	13.97	2.71	16.68	11.86	8.33	20.20	1.11	0.09	100.00
25-29	8.69	24.40	32.77	13.80	2.88	16.68	8.14	7.16	15.30	1.50	0.51	100.00
30-49	28.98	28.52	22.80	7.84	3.09	10.92	4.01	3.66	7.67	0.79	0.27	100.00
50+	63.36	19.88	11.68	2.20	1.07	3.27	0.63	0.86	1.49	0.09	0.05	100.00
Total	19.79	33.26	26.44	10.06	2.22	12.28	4.21	3.24	7.45	0.55	0.15	100.00

Source: BPS, Labor Force Situation in Indonesia, The Average, 1977, National Labor Force Survey, SAKERNAS, YUS79-28, 1977; Tables 4.1, 4.2

Table IB.5: EDUCATION ATTAINMENT OF THE POPULATION BY AGE GROUPS, 1977
RURAL

Age Group	No School	Elementary School		Junior High School			Senior High School			Academy	University	Total
		Incomplete	Completed	General	Vocational	Total	General	Vocational	Total			
Male												
10-14	6.21	76.57	16.32	0.56	0.04	0.60						100.00
15-19	6.87	32.60	46.02	11.46	1.66	13.12	0.72	0.57	1.29			100.00
20-24	7.14	31.99	41.59	9.29	2.35	11.64	3.39	4.10	7.49	0.16		100.00
25-29	10.86	35.08	41.83	5.59	1.62	7.21	1.70	3.08	4.78	0.25		100.00
30-49	25.60	38.62	28.93	2.45	1.14	3.59	0.74	2.19	2.93	0.23	0.08	100.00
50+	52.93	31.50	13.71	0.70	0.65	1.36	0.12	0.27	0.39	0.07	0.01	100.00
Total	20.45	43.05	28.88	4.03	1.08	5.11	0.81	1.47	2.28	0.12	0.03	100.00
Female												
10-14	8.64	76.20	14.39	0.49	0.09	0.57						100.00
15-19	12.39	36.09	41.25	7.81	1.54	9.35	0.38	0.50	0.88			100.00
20-24	17.15	39.65	35.41	3.42	1.45	4.87	1.03	1.76	2.79	0.08		100.00
25-29	26.61	40.13	27.84	2.52	0.89	3.41	0.62	1.23	1.85	0.08		100.00
30-49	52.99	31.78	13.43	0.66	0.48	1.14	0.13	0.44	0.58	0.04	0.01	100.00
50+	83.83	13.27	2.69	0.04	0.07	0.11	0.00	0.03	0.03			100.00
Total	38.60	38.51	19.39	1.96	0.63	2.59	0.27	0.54		0.03	0.00	100.00

Source: SAKENAS, 1977

Table IB.6: LABOR FORCE PARTICIPATION RATES BY AGE, SEX AND LOCATION, INDONESIA, 1977-78

Age Group	Urban		Rural	
	Male	Female	Male	Female
10-14	4.7	4.6	19.3	11.3
15-19	33.9	23.1	65.4	39.1
20-24	74.8	29.4	90.8	39.4
25-29	92.7	30.0	97.8	44.3
30-34	98.1	30.5	98.7	49.5
35-39	98.1	36.4	98.9	52.6
40-44	97.7	42.4	98.8	57.1
45-49	94.1	41.5	98.1	56.3
50-54	84.9	36.3	95.9	52.9
55-59	72.7	31.0	92.3	48.3
60-64	62.5	26.4	85.2	41.0
65+	43.5	15.0	65.8	25.2
Total	63.1	26.2	76.1	40.4

Note: Rates are arithmetic averages of eight quarterly observations.

Source: SAKERNAS, 1977, 1978.

INDONESIA

Table IB.7: URBAN LABOR FORCE PARTICIPATION RATES BY AGE AND EDUCATIONAL ATTAINMENT

<u>Age Group</u>	<u>No School</u>	<u>Elementary</u>		<u>High School</u>		<u>Academy and University</u>	<u>Total</u>
		<u>Incomplete</u>	<u>Complete</u>	<u>Junior</u>	<u>Senior</u>		
<u>Male</u>							
10-14	20.00	3.74	5.31	1.96			4.38
15-19	67.69	59.86	38.48	12.93	31.17		33.92
20-24	69.91	92.34	91.11	63.45	55.58	40.00	73.39
25-29	85.02	95.57	97.01	94.42	87.74	63.22	91.81
30-49	94.90	97.56	96.79	97.48	98.21	96.38	97.14
50+	66.17	76.30	63.03	57.53	67.27	87.96	67.54
Total	74.41	48.07	67.23	59.11	77.62	66.51	62.26
<u>Female</u>							
10-14	12.75	3.34	4.83	0.00			3.93
15-19	43.68	35.41	19.86	0.42	17.93		21.37
20-24	26.98	26.60	23.06	27.20	40.09	34.75	28.42
25-29	31.71	24.66	18.22	25.52	50.75	56.76	27.90
30-49	39.48	32.65	25.81	28.94	43.44	49.47	33.67
50+	27.89	26.69	21.19	22.49	12.79	80.00	26.51
Total	33.32	20.18	19.50	20.01	40.48	49.04	24.29

Source: SAKERNAS, 1977

INDONESIA

Table IB.8: RURAL LABOR FORCE PARTICIPATION RATES BY AGE AND EDUCATIONAL ATTAINMENT

Age Group	<u>No School</u>	<u>Elementary</u>		<u>High School</u>		<u>Academy and University</u>	Total
		<u>Incomplete</u>	<u>Complete</u>	<u>Junior</u>	<u>Senior</u>		
<u>Male</u>							
10-14	56.68	13.00	23.77	16.27			17.45
15-19	88.53	79.92	67.30	22.91	21.91		66.41
20-24	93.68	96.61	95.75	73.47	65.85	41.18	90.96
25-29	94.17	98.75	98.68	94.58	94.34	83.75	97.68
30-49	98.03	99.12	98.84	97.31	99.71	87.77	98.68
50+	81.65	88.43	85.68	73.31	78.13	33.64	84.21
Total	88.13	65.87	81.67	60.62	81.76	83.21	75.06
<u>Female</u>							
10-14	24.47	7.70	12.92	5.60			9.89
15-19	53.99	47.72	32.65	9.15	29.84		38.49
20-24	39.81	40.78	35.03	27.35	59.05	50.00	38.45
25-29	43.95	43.99	33.83	31.93	62.79	84.38	41.10
30-49	55.56	48.03	36.99	38.46	81.45	59.68	50.61
50+	38.45	38.23	28.46	29.41	100.00		38.41
Total	47.06	33.12	31.81	20.21	61.50	63.71	38.13

Source: SAKERNAS, 1977

Table IB.9: MEASURED OPEN UNEMPLOYEENT RATES BY AGE,
SEX AND LOCATION, INDONESIA, 1977-78

Age Group	Urban		Rural	
	Male	Female	Male	Female
10-14	17.36	7.09	3.89	2.44
15-19	25.34	11.84	6.68	4.66
20-24	18.03	12.54	5.30	3.26
25-29	6.11	4.36	1.74	0.71
30-34	2.41	0.99	0.39	0.26
35-39	1.30	0.63	0.31	0.23
40-44	0.66	0.40	0.23	0.16
45-49	0.88	0.00	0.43	0.03
50-54	0.91	0.06	0.45	0.06
55-59	1.94	0.04	0.14	0.15
60-64	0.26	0.00	0.11	0.28
65+	0.10	0.53	0.01	0.25
Total	6.7	4.64	1.96	1.25

Note: Rates are arithmetic averages of eight quarterly observations.

Source: SAKERNAS, 1977, 1978.

Table IB.10: YOUTH UNEMPLOYMENT RATES IN URBAN AREAS BY SEX AND EDUCATIONAL ATTAINMENT, INDONESIA, 1977

Age Group	No School	Elementary School		Junior High School		Senior High School		Academy	University	Total
		Incomplete	Completed	General	Vocational	General	Vocational			
Male										
10-14	22.7	15.0	38.4	0.0						21.8
15-19	29.7	19.7	24.1	36.6	36.4	51.9	58.5			25.9
20-24	4.1	10.3	13.0	20.5	30.0	29.7	32.6	21.5	0.0	18.4
25-29	3.2	4.6	3.0	8.5	7.8	8.7	5.1	14.4	10.6	5.7
Total	2.2	4.8	6.2	8.5	8.8	9.0	12.5	3.8	1.7	6.4
Female										
10-14	9.9	10.8	18.5							12.9
15-19	2.4	9.3	14.5	26.6	21.8	58.8	40.5			13.9
20-24	5.9	2.9	6.6	18.6	16.7	38.4	26.5	8.0	0.0	14.7
25-29	2.9	2.4	2.6	9.2	6.4	7.1	3.5	19.9	12.0	4.7
Total	0.7	3.4	6.0	11.9	6.6	20.3	11.2	9.5	4.3	5.4

Source: SAKERNAS, 1977

**Table IB.11: EMPLOYMENT BY MAIN INDUSTRY, HOURS WORKED
SEX AND LOCATION, INDONESIA, 1977
(percent)**

Hours	Agriculture %	Secondary %	Tertiary %	Total %
URBAN-MALE				
<u>Temporary Not at Work</u>	9.23	2.20	2.21	2.95
< 24	15.24	1.94	4.57	4.84
25 - 34	12.94	3.54	8.71	7.45
35 - 39	54.07	66.17	64.87	64.81
65 +	8.22	23.96	19.47	19.75
Total	100.00 (526)	100.00 (1631)	100.00 (2797)	100.00 (4954)
URBAN-FEMALE				
<u>Temporary Not at Work</u>	10.17	1.30	1.83	2.64
< 24	28.55	7.16	11.33	12.50
25 - 34	19.52	9.05	12.53	12.73
35 - 39	39.00	69.13	47.23	49.80
65 +	2.39	13.30	26.63	21.96
Total	100.00 (217)	100.00 (323)	100.00 (1510)	100.00 (2050)
RURAL-MALE				
<u>Temporary Not at Work</u>	7.26	3.04	3.18	6.12
< 24	22.08	5.64	9.13	18.16
25 - 34	16.96	7.72	14.71	15.61
35 - 39	48.49	62.54	56.92	51.39
65 +	4.91	20.97	15.93	8.47
Total	100.00 (19499)	100.00 (2804)	100.00 (4587)	100.00 (26889)
RURAL-FEMALE				
<u>Temporary Not at Work</u>	8.68	2.05	2.61	6.37
< 24	37.29	16.55	16.51	30.30
25 - 34	19.44	15.08	18.34	18.68
35 - 39	32.37	56.18	45.23	38.01
65 +	2.02	10.06	17.05	6.24
Total	100.00 (9453)	100.00 (1704)	100.00 (3092)	100.00 (14249)
INDONESIA				
<u>Temporary Not at Work</u>	7.77	2.48	2.64	5.78
< 24	28.85	7.66	10.25	20.14
25 - 34	17.70	8.67	13.97	15.56
35 - 39	43.39	62.61	54.54	48.74
65 +	4.03	18.46	18.40	9.54
Total	100.00 (29695)	100.00 (6462)	100.00 (11987)	100.00 (48144)

Note: Total excludes mining, it includes social workers; percentages may not add to exactly 100 due to the unknowns. Figures in parentheses denote thousands of people.

Source: SAKERNAS 1977 average c. 13.1, 13.2, 13.4, 13.5, 13.9

Table IB.12: SUMMARY STATISTICS FOR THE DISTRIBUTION OF MONTHLY INCOME
OF EMPLOYEES FROM MAIN JOB BY MAIN INDUSTRY, SEX AND LOCATION, INDONESIA, 1977

	Urban				Rural			
	Quartiles			Mean	Quartiles			Mean
	1	2	3		1	2	3	
<u>Male</u>								
Agriculture	6.4	10.7	18.3	14.9	4.6	7.1	10.2	8.9
Manufacturing	11.6	18.2	28.3	22.9	7.3	11.1	17.2	13.4
Construction	15.2	20.0	28.1	23.7	9.5	14.7	19.3	17.1
Trade	12.0	18.6	30.4	25.4	5.9	9.6	15.5	11.5
Transport	13.5	19.2	31.0	26.1	9.2	15.0	19.9	18.0
Services	15.5	25.9	40.7	32.4	9.6	18.5	33.3	23.7
Total	13.5	21.2	34.6	28.6	5.7	9.2	16.1	13.5
<u>Female</u>								
Agriculture	3.3	5.5	8.9	8.0	2.4	3.7	5.0	4.7
Manufacturing	4.4	6.7	10.2	9.4	2.8	4.4	7.3	5.5
Construction	8.0	11.5	18.3	13.6	5.6	9.0	12.2	8.9
Trade	5.1	8.8	17.3	16.6	3.4	4.4	7.1	9.5
Transport	16.2	25.2	37.8	27.8	3.9	5.6	9.1	7.5
Services	5.4	9.7	22.1	15.9	3.4	5.7	16.0	11.4
Total	5.0	8.5	18.2	14.6	2.7	4.0	6.1	6.0

Source: SAKERNAS, 1977.

Table IB.13: EMPLOYMENT BY MAIN EMPLOYMENT STATUS, INDUSTRY, SEX AND LOCATION, INDONESIA, 1977
(in thousands)

	Males					Females				
	Agriculture	Secondary	Tertiary	Total	(JAVA)	Agriculture	Secondary	Tertiary	Total	(JAVA)
Urban										
Employees	164	1,347	1,655	3,166	(2,211)	55	255	678	988	(774)
Own account workers	119	188	738	1,045	(597)	17	35	501	553	(389)
Employers	168	69	270	507	(224)	15	11	108	134	(86)
Unpaid family workers	75	27	132	234	(90)	129	22	222	373	(161)
Total	526	1,631	2,797	4,954	(3,123)	217	323	1,510	2,050	(1,410)
Java	(153)	1,160	1,793	3,106		(42)	259	1,105	1,406	
Rural										
Employees	4,713	1,848	2,131	8,692	(6,735)	2,698	688	783	4,169	3,552
Own account workers	3,529	508	1,641	5,678	(3,395)	459	436	1,498	2,392	1,700
Employers	6,717	302	551	7,570	(4,838)	809	172	304	1,285	914
Unpaid family workers	4,537	146	254	4,937	(3,225)	5,487	408	504	6,399	3,833
Total	19,499	2,804	4,587	26,889	(18,193)	9,453	1,704	3,092	14,249	(9,999)
Java	(12,769)	1,998	3,363	18,130		(6,295)	1,224	2,473	9,992	

Note: Total excludes mining; it includes social workers.

Sources: SAKERNAS 1977 Average, t. 10.1, 10.2, 10.4, 10.5 for Indonesia; t. 29.1, 29.2, 29.4, 29.5, 31.1, 31.2, 31.4, 31.5, for Java.

CHAPTER 2

TRENDS IN THE ECONOMIC DEVELOPMENT OF INDONESIA, 1961-80: EMPLOYMENT, OUTPUT, RELATIVE PRICES AND WAGES

2.01 The last chapter outlined the main characteristics of the labor force in 1977. The purpose of this chapter is to inquire about changes over time and to relate employment trends to overall trends in Indonesian economic development. The trends to be examined are: (i) the growth of employment (measured in terms of employed persons) and its allocation to the main sectors of economic activity; (ii) the growth in output and its association with employment growth by sector; (iii) the changes in sectoral relative prices; and (iv) the trends in real wages.

2.02 We shall present the available evidence on each of these topics in turn. For the period 1961-80, there are yearly estimates of output growth by sector. However, employment figures are available only for 1961 (IV), 1971 (IV), 1976 (I, IV), 1977 (I-IV), 1978 (I-IV), 1979 (I, IV) and 1980 (IV). Employment trends have to be estimated from sources (censuses and labor force surveys) with incomplete coverage in time and varying definitions of labor force and employment. The judgment of this report is that the number of employed persons in Indonesia has grown by 2.4% per annum from 1961 to 1971, and at 2.9% from 1971 to 1980.

2.03 The last section of this chapter contains an overview of economic developments in Indonesia over the last 20 years. The rate of output growth over the period 1971-80 (7.4%) was 64% higher than for 1961-71. The secondary sector accounted for one third of the increased output during the 1970s, but only for about 10% of the new employment. From 1971 to 1980, output growth was well above employment growth in both primary and secondary sectors, and both rates were about the same in tertiary activities; the relative price of agricultural goods increased, relative to manufacturing, and remained roughly constant relative to services; and the real wage of unskilled labor remained constant. The constancy of the real wage, given the faster growth in output relative to employment in about two thirds of all economic activity, is a key fact to be explained in the study of the economic development in Indonesia.

Growth and Industrial Composition of Employment

2.04 The basic data sources for studying employment in Indonesia are the Population Censuses of 1961 and 1971; the Intercensal Population Survey (SUPAS) of 1976; and the quarterly National Labor Force Surveys (SAKERNAS) of September/December 1976; each quarter in 1977 and 1978, the first and fourth quarters of 1979; and the Population Census of 1980 (preliminary results). It is possible to derive the changes in the number of employed persons by sector from changes in: the total population; the proportion of population in working age; the labor force participation and employment rates; and the sectoral composition of employment.

2.05 The rate of population growth increased in the 1970s, relative to the 1960s from 2.1% to 2.3% (see Table 2.1). Correspondingly, during the same period there was accelerated growth in the the population aged 10 and above from 2.4% to 2.9% per year. These rates are good approximations for the growth in the number of employed persons during the 1960s and the 1970s, respectively, since labor force participation and employment rates stayed constant during this time (see below).

Table 2.1: GROWTH OF POPULATION AND POPULATION OF WORKING AGE, INDONESIA AND JAVA, 1961-71, 1971-80

	1961-1971	1971-1980
<u>All Indonesia</u>		
Population growth (% per annum)	2.08	2.34
Growth in population aged 10 and above (% per annum)	2.38	2.87
<u>Java</u>		
Population growth (% per annum)	1.91	2.03
Growth in population aged 10 and above (% per annum)	2.16	2.64

Source: Appendix Table IIB.1. Total population and population 10 and above in 1971 have been adjusted to 119,233 and 80,947 thousand, respectively, to include the estimated population of West Iran.

2.06 The overall labor force participation rates are given in Table 2.2. Their breakdown by age, sex and urban-rural location is given in Appendix Table IIB.2.

Table 2.2: LABOR FORCE PARTICIPATION RATES, INDONESIA AND JAVA,
1961-71, 1976-1980

Year	Quarter	Indonesia	Java
1961	IV	54.1	53.8
1971	IV	49.9	50.4
1976	I	61.4	63.0
	IV	54.9	56.0
1977	I	55.3	56.5
	IV	53.0	54.4
1978	I	57.8	58.6
	IV	55.0	56.2
1979	I	56.0	57.0
	IV	54.5	55.8
1980	IV	49.9	50.6

Note: Rates are the labor force as a proportion of the population aged 10 and above.

Source: Appendix Tables IIB.1 and IIB.2.

These rates are not comparable, due to differences in reference periods and the definition of work (see World Bank, July 1980, p. 9, for 1961 and 1971). In particular, it is not possible to interpret the change between 1971 IV and 1976 I as a "real" change. There are reasons to consider the 1971 IV figure, an underestimate (see Appendix A to this chapter). Also, the high value in 1976 I cannot be attributed to the effect of the peak agricultural season upon the demand (and supply) of labor. ^{1/} Most likely, it is an overestimate,

^{1/} This point is argued in Appendix A to Chapter 1. The high rates do not show up in 1977 I, 1978 I or 1979 I. Furthermore, SUPAS 1976 I contained questions designed to remove seasonality effects, but the rates remained equally high.

relative to other years. Therefore, the uncorrected growth rate of 4.7% for the labor force (and for employment) between 1971 and 1976 is most unlikely.^{1/}

2.07 To form a judgment about trends in participation rates, it is best to discard the rates for 1961, and the rates for 1976 I, as outliers, the former due to major differences in the reference period for defining work, and the later due to differences in the definition of female rural work.

2.08 The measured rates in Table 2.2 are then reduced to two levels: one for the censuses of 1971 and 1980, around 50%; and another, about five percentage points higher, for the fourth quarter of the labor force surveys in the four years from 1976 to 1979. Furthermore, the surveys in 1977, 1978 and 1979 indicate an increase in the participation rate at the peak of the agricultural season. This increase varies between 1.5 and 3 percentage points.

2.09 The difference between participation rates in censuses and surveys is not unexpected. Typically, demographic censuses underestimate participation rates. Appendix A to this chapter discusses why this is likely to be true in Indonesia. However, for the assessment of trends, such differences between censuses and surveys are not relevant. There is no evidence of changing trends in participation rates since 1971, which therefore cannot account for changes in employment.

2.10 The breakdown of the overall participation rates by sex and location (see Appendix Table IIB.2) shows a great disparity between urban and rural areas, and by sex group. These sex and location specific rates are pitched at two distinct levels (depending on whether the source is the census or labor surveys), but both sources show an absence of trends, corresponding to the aggregate information in Table 2.2.

2.11 Trends in the number of employed persons are also affected by changes in the unemployment rate. Employment rates (the ratio of employed persons to the labor force) by sex and location are given in Appendix Table IIB.3. Due to changes in the method of enumeration, the employment rates in the final tabulations of the 1971 demographic census are very different from those reported in the preliminary tabulations (series C). Moreover, they appear to be out of line with the employment rates as measured in the censuses of 1961 and 1980, as well as the labor force surveys since 1976.

2.12 If such an outlier is ignored, there is no evidence of a perceptible trend in employment rates by sex and location, nor is there any indication of a changing trend in the overall employment rate, which could result from a shift in the composition of employment. In the aggregate, the measured

¹ Yet, this was the rate used in World Bank (1979), 2093-IND, p. iv; and World Bank (1980), 2788-IND, p. 63. In World Bank (1981) 3307-IND, p. 32, the estimated growth rate of employment for the period 1971-78 is 3.3%. In World Bank (1982) 3795-IND, p. 95, the rate for 1971-80 is 2.65%.

employment rate has stayed around 98% throughout the 70s, (see Appendix Table IIB.3). As a result, the rate of change in the number of employed persons is best approximated by the rate of growth of the population aged ten and above, as stated earlier.

2.13 Changes in the Sectoral Composition of Employment, 1961-1971, 1971-1980. The sectoral composition of employment (measured by the number of employed persons) changes over time in the following fashion. For any sector, say agriculture, the rate of change in employment is equal to the rate of change in total employment plus the rate of change in the proportion of employment in agriculture, relative to the total. This proportion, for agriculture and other sectors, can be obtained from the censuses and the labor force surveys. Nevertheless, there are two important problems of measurement. The first, specific to the censuses, is the relatively high proportion of employment whose sectoral allocation was unknown in 1971 (4.1%, versus 1.9% in 1961 and 1.3% in 1980). Given that manufacturing employment was measured at 7.5% of the total in 1971, the margin of error for changes in manufacturing employment is large: in the limiting case, the 1971 proportion could have been 11.6% (7.5 + 4.1) and this obviously has a major impact on estimates of rates of change.

2.14 The second problem of measurement is specific to the labor force surveys. Given the small sample size, there is a potentially large sampling error in the employment proportions. For sectors with a small proportion of employment, like construction, this implies a large absolute error in the number of persons employed.

2.15 These measurement problems have no adequate solution. A reasonable guess about changes in the sectoral composition of employment can be obtained from the demographic censuses of 1961, 1971 and 1980, after proportionately allocating across sectors the number of employed persons whose main sectoral activity is unknown. With these adjustments, the sectoral composition of employment and the yearly rate of change of the sectoral shares for the periods 1961-1971 and 1971-1980 are given in Appendix Tables IIB.6-10 for Indonesia and for Java separately; and within each, for each sex and rural and urban areas.

2.16 Those yearly rates of change, added to the rate of growth of the population aged 10 years and older, make it possible to compute rates of growth of sectoral employment. For Indonesia and Java, these are given in Table 2.3. The corresponding breakdowns by sex and urban-rural location are given in Tables 2.5 and 2.6.

Table 2.3: RATE OF GROWTH OF EMPLOYMENT BY MAIN INDUSTRY, INDONESIA AND JAVA, 1961-1971 AND 1971-1980

Main industry	All Indonesia		Java	
	Average per Annum		Average per Annum	
	1961-1971	1971-1980	1961-1971	1971-1980
	%	%	%	%
Agriculture	1.4	1.0	0.9	0.5
Manufacturing	5.4	4.0	4.9	4.0
Transport and public utilities	2.0	4.9	3.0	5.3
Construction	3.4	8.2	2.6	7.4
Trade	7.5	4.6	7.6	3.9
Services	3.0	7.8	2.2	7.2
All sectors	2.4	2.9	2.2	2.6

Source: Table 2.1 and Appendix Table IIB.6.

2.17 The major point emerging from Table 2.3 is the low rate of labor absorption by agriculture. The growth of employment in this sector has paradoxically fallen in the seventies compared to the sixties, despite the much more impressive performance of production in the last decade. The slow growth of agricultural employment is much more striking in Java, where the growth rate seems to have been only half of that in all Indonesia in the seventies. Two points are worth emphasizing in this connection. First, we do not have data on average hours worked by individual agricultural laborers at different points in time. It is conceivable that institutional changes within the agricultural sector have resulted in owners' depending on a smaller body of workers, each working more hours. Thus, the rate of growth of employment in terms of hours of work may not be as low as indicated by the numbers. These issues, which can only be tackled at the level of micro studies are discussed in Chapter 3. But even if this interpretation were correct, the low growth of employment in agriculture may be one aspect of the "employment problem" in Indonesia. Secondly, in the history of economic transformation, it is well known that agriculture typically sheds labor which can be profitably employed in other sectors. Changes in Indonesian employment patterns, however, do not fit readily into this optimistic pattern. This is because it is apparent from the figures in Table 2.3 that the highest rate of employment growth is observed in the tertiary, rather than the manufacturing sector, and particularly in services. Taken in conjunction with the fact that the absolute proportion of employment in manufacturing has been quite low, much of the increase in employment seems to have been absorbed in the tertiary sector in the last decade.

2.18 This point is brought out quite dramatically in Table 2.4, which estimates the actual increase in employment in the sixties and the seventies, and the proportions of the increase which were absorbed by the various sectors. The contrast between the two periods is as important as the contrast between Indonesia as a whole, and Java. The tertiary sector - trade and services - has always been important for labor absorption in Indonesia. But in the sixties, it was almost as important as agriculture for male workers, and somewhat less than agriculture for female workers. The situation has been completely different in the seventies. Agriculture accounted for less than a quarter of new employment in all Indonesia, and less than 10% in Java. The share of manufacturing and other industry in new employment was not sufficient to offset the declining rate of agriculture, so that the tertiary sector's proportion of new employment increased. This phenomenon is particularly marked for female employment in Java where trade and services accounted for no less than 84% of new employment in the seventies.

2.19 Tables 2.5 and 2.6 present the estimated growth rates of employment disaggregated by sex and rural-urban location. The first point to note in these disaggregated tables is the employment lag in agriculture in the rural areas, particularly in Java. Female employment in rural agriculture seems to have suffered an actual decline, while male employment increased by only 0.3% per annum. The growth rate for employment in agriculture in Java (and Indonesia as a whole) was pulled up by the much better performance of agriculture in urban areas. Part of this phenomenon might be due to redefinition of rural-urban boundaries, but it is also probably partly due to urban gardening activity.

2.20 A second point of importance emerges from the rural growth rates presented in Table 2.5. For both males and females - and much more so for the latter - employment in manufacturing has increased at a slower rate than in services. The most important sector for labor absorption in the rural areas has been services - not only because of its high rate of employment growth, but because it started with a large base in 1971. The data point to the urgent need to look into the nature of nonagricultural employment which has been created in the rural economy in the last decade.

2.21 Turning to Table 2.6 on the urban sector we should first note the high growth rate of employment for both males and females: unlike the rural areas, employment of females expanded at much the same rate as for males. Also, contrasted with the rural sector, employment in manufacturing grew at a high rate, but the growth rates in the service sector were also high for both sexes. Given the larger initial employment in services compared to manufacturing, it is evident that the service sector accounted for the major part of labor absorption in the urban economy - as it did for the country as a whole in the last decade.

Table 2.4: INCREASE IN EMPLOYMENT AND ITS DISTRIBUTION BY SEX,
URBAN-RURAL LOCATION AND MAIN INDUSTRY, INDONESIA AND JAVA,
1961-71, 1971-80
(In Thousands)

	Urban		Rural	
	1961-71	1971-80	1961-71	1971-80
<u>All Indonesia</u>				
<u>Male</u>	1,263	2,863	4,044	5,105
Percent of increase in:				
Agriculture	8	10	45	29
Manufacturing	1	17	13	10
Other industry	16	15	9	18
Trade, services	72	56	33	39
<u>Female</u>	498	1,069	2,186	2,363
Percent of increase in:				
Agriculture	8	9	38	20
Manufacturing	5	17	15	10
Other industry	0	1	9	22
Trade, services	86	74	37	45
<u>Java</u>				
<u>Male</u>	790	2,108	2,368	2,431
Percent of increase in:				
Agriculture	2	15	31	11
Manufacturing	-2	20	17	11
Other industry	19	15	9	26
Trade, services	81	49	41	50
<u>Female</u>	322	805	1,298	1,074
Percent of increase in:				
Agriculture	2	13	27	-7
Manufacturing	7	18	39	10
Other industry	0	0	-1	2
Trade, services	89	69	34	95

Note: Other industry includes construction, transport and public utilities. Proportions do not add up to 100 because of rounding and the exclusion of mining.

Sources: Appendix Tables IIB.1, IIB.2, IIB.7, and IIB.8-10.

Table 2.5: RATE OF GROWTH OF EMPLOYMENT BY MAIN
INDUSTRY AND SEX IN RURAL AREAS, INDONESIA
AND JAVA, 1961-1971, 1971-1980

Main industry	All Indonesia		Java	
	Average Annual %		Average Annual %	
	1961-1971	1971-1980	1961-1971	1971-1980
<u>Male</u>				
Agriculture	1.2	1.0	0.7	0.3
Manufacturing	6.4	4.4	6.0	2.9
Transport and public utilities	5.9	6.7	5.4	6.6
Construction	5.4	9.0	3.8	9.1
Trade	6.9	3.9	7.4	2.7
Services	4.6	6.4	4.0	6.6
All sectors	2.0	2.3	1.8	1.7
<u>Female</u>				
Agriculture	1.1	0.6	0.7	-1.4
Manufacturing	7.4	1.4	7.5	1.2
Transport and public utilities	-4.6	2.1	-4.8	9.4
Construction	-	-	-	-
Trade	8.3	5.7	7.8	4.2
Services	-1.9	11.1	-3.7	9.4
All sectors	2.1	2.1	1.9	1.5

Source: Appendix Tables IIB.1, IIB.9, IIB.10.

2.22 Lastly, the roles of trade and of services seem to have been reversed in the period 1971-80 compared to the previous decade. In both rural and urban areas in the sixties, growth of employment in trade was significantly higher than in services. The opposite is true for the seventies.

2.23 It is not easy to evaluate how these changes are affecting the industrial composition of new employment - whether labor is being pushed into tertiary employment through a (relative) reduction in employment opportunities in agriculture, or pulled into it because of new opportunities opening up in trade and service activities. There are no data on relative

Table 2.6: RATE OF GROWTH OF EMPLOYMENT BY MAIN INDUSTRY AND SEX IN URBAN AREAS, INDONESIA AND JAVA, 1961-1971, 1971-1980

<u>Main industry</u>	<u>All Indonesia</u>		<u>Java</u>	
	Average Annual %		Average Annual %	
	1961-1971	1971-1980	1961-1971	1971-1980
<u>Male</u>				
Agriculture	2.4	5.1	1.0	11.0
Manufacturing	0.3	8.1	-0.3	9.0
Transport and public utility	3.0	4.0	3.1	4.2
Construction	2.5	6.2	2.6	5.8
Trade	5.1	3.9	5.4	3.3
Services	4.8	7.3	4.8	7.0
All sectors	3.6	5.9	3.4	6.4
<u>Female</u>				
Agriculture	3.5	5.8	1.5	11.9
Manufacturing	1.2	6.3	1.7	7.4
Transport and public utility	-0.5	1.4	2.7	0.8
Construction	-4.2	15.6	-4.5	6.3
Trade	10.4	4.8	10.3	5.5
Services	1.1	6.2	3.3	5.9
All sectors	3.8	5.8	3.6	6.3

Source: Appendix Tables IIB.1, IIB.7 and IIB.8.

incomes within the tertiary sector, or those parts of it providing the bulk of incremental employment. An optimistic interpretation of the change in the structure of employment would seem feasible if the marginal employment share had been highest in the secondary sector. This issue will be reconsidered later in the chapter, after the examination of available wage trends, and also in Chapter 4, which will contrast the Indonesian experience with structural changes in employment in the rice economies of Japan and Korea which eventually experienced sharp rises in the growth of agricultural wages.

Growth in Output Relative to Employment

2.24 The expansion of Indonesia's economy over the last twenty years is indicated in Table 2.7. The acceleration of growth during the seventies is largely due to the rapid expansion of the secondary sector.

2.25 Employment elasticities have been calculated on the basis of these output growth rates and our own estimates of employment growth as discussed in the previous sections. As can be seen from the last two columns of Table 2.7, the employment elasticity in agriculture has very nearly halved in the seventies, compared to the sixties. There has also been a significant fall in employment elasticities in the secondary sector (with the possible exception of construction). The fall in employment elasticities

Table 2.7: YEARLY RATES OF OUTPUT GROWTH, BY MAIN INDUSTRY AND TOTAL ELASTICITY OF EMPLOYMENT WITH RESPECT TO OUTPUT, INDONESIA, 1961-1971, 1971-1980

	Output growth (% per year)		Employment elasticities /a	
	1961-1971	1971-1980	1961-1971	1971-1980
Agriculture	3.2	3.6	0.44	0.28
Mining	8.9	6.5	-	-
Manufacturing	3.8	12.3	1.42	0.33
Transport and public utilities	3.6	12.2	0.56	0.40
Construction	6.7	13.9	0.51	0.59
Trade and services	5.7	8.3	0.89	0.75
GDP	4.5	7.3	0.53	0.39

/a Percentage change in employment divided by percentage change in value added.

Source: World Bank Economic Data Sheet; Appendix Table IIB.6.

has been large enough to more than offset any upward movement of the economy-wide employment elasticity from a net shift of employment towards the tertiary sector (in which the employment elasticity is very high). Hence, the employment elasticity for Indonesia has been cut by nearly 30% in the seventies. This finding summarizes the magnitude of the employment problem Indonesia might face in the coming years. Some discussion of these issues will be found in Chapter 4.

Relative Prices

2.26 The behavioral trends of output and employment changes in the size and structure of both aggregates during the last 20 years. Have those changes been accompanied by any variation in the structure of relative prices? How large and significant has that variation been? This section contains a brief summary of the available evidence which forms the basis for the discussion of intertemporal linkages in commodity prices, output and factor prices - in particular, the real wage.

2.27 There are several sources of price information, with varying coverage of commodities and the nature of the transactions. The most aggregative evidence (GDP deflators) will be examined first, followed by price indexes for wholesale (WPI) and retail trade (COL, CPI, Nine Essential Commodities). The period of analysis will be primary 1961 onwards and, in some cases, only the decade of the 1970s.

2.28 GDP Deflators. Table 2.8 contains sectoral GDP deflators relative to the GDP deflator in agriculture for the following sectors: mining, manufacturing, transport and public utilities, construction, trade and services. As expected, the relative GDP for mining behaves very differently from all others. Leaving mining apart, there are no apparent patterns in Table 2.7. The following factors stand out: (i) the economic dislocation during the 1960s was associated with a large increase in agricultural prices, relative to prices in the secondary sector and a smaller increase relative to services; (ii) since 1967, prices in agriculture and services have stayed roughly constant; (iii) manufacturing prices increased, relative to agriculture up to 1972, and have declined since; and (iv) the increase in transport and construction prices, relative to agriculture, from the low levels of the 1960s goes up to 1976, and then begins to decline.

2.29 These broad facts provide rough criteria for aggregating over sectors. This together with the increase in the relative prices in the labor-intensive sectors during the 1970s, is used in the Annex to this report to confront the main facts of Indonesian economic development with different views on how labor markets work.

2.30 Wholesale Price Indexes (WPI). Table 2.9 gives information on relative prices compiled on the basis of WPI series since 1971. There is not much regularity in the ratio of food to commercial crops, but there is an increasing trend in the ratio of agriculture to manufacturing. This is in the same direction but larger in magnitude than the trend from the GDP deflator ratio between farm food crops and manufacturing, thus reinforcing the evidence in the previous section.

2.31 Over the 1970s, the external terms of trade have moved steadily in favor of Indonesia, largely due to oil prices. But even excluding oil exports in 1981, imports in terms of exports were 30% cheaper than in 1971/72.

2.32 Retail Prices. The Appendix Tables IIB.11 and IIB.12 contain information on retail prices. Table IIB.11 shows the price index of food relative to clothing in Jakarta during the 1970s. There is a one-third

Table 2.8: GDP PRICE DEFLATORS, RELATIVE TO AGRICULTURE, INDONESIA, 1961-81

	Mining	Manufac- turing	Transport & public utilities	Construction
1961	46	108	100	77
1962	21	72	58	48
1963	44	61	44	84
1964	99	76	39	102
1965	30	73	46	79
1966	23	91	43	49
1967	35	75	58	81
1968	46	94	81	97
1969	46	94	86	101
1970	47	96	89	96
1971	79	93	114	111
1972	98	107	107	106
1973	100	100	100	100
1974	222	95	122	102
1975	211	93	121	113
1976	188	96	120	129
1977	170	87	98	111
1978	194	92	94	110
1979	242	86	91	115
1980	342	94	97	120
1981*	327	87	90	115

* Preliminary estimates.

Source: World Bank Economic Data Sheet

Table 2.9: RELATIVE PRICE RATIOS /a FROM WHOLESAL PRICE INDEXES (1973 = 100), INDONESIA, 1971-81

	Food crops/ commercial crops	Agriculture/ manufacture	Imports/ exports	Imports/ nonoil exports
1971	91	97	128	119
1972	126	104	118	125
1973	100	100	100	100
1974	78	112	63	100
1975	114	123	69	131
1976	102	131	71	113
1977	76	144	64	93
1978	75	142	64	88
1979	74	142	46	63
1980	89	147	36	62
1981	103	150	36	71

/a Average index for each year.

Source: World Bank (1982) 3795-IND, p. 258.

increase in the relative price of food throughout the decade up to the fourth quarter of 1978. Since then food has become 15% cheaper relative to clothing. ^{1/}

2.33 It is also useful to examine some basic commodity prices. Appendix Table IIB.12 contains the money prices of rice, kerosene and textiles, over the 1970s in Jakarta and the rural markets of Java and Madura. Those money prices are converted into indexes of relative price ratios in Table 2.10. In rural areas, the price of rice has doubled, relative to kerosene during the 1970s. Relative to textiles, it has increased about 70%. In Jakarta, those trends are not apparent. There is little evidence of a long-term trend in the price of rice relative to kerosene, and a slight increase relative to (low quality) textiles.

2.34 The higher price for rice in rural markets, both in terms of money and of kerosene and textiles, indicates the extent of the subsidy on urban (or at least Jakarta) rice consumption. Another reason for the different relative price trends might be a lower quality for rice consumed in Jakarta.

^{1/} This may provide some evidence to the effect that food subsidies in Jakarta have increased since the 1978 devaluation of the rupiah.

Table 2.10: RICE PRICE, RELATIVE TO KEROSENE AND TEXTILES,
IN JAKARTA AND THE RURAL MARKETS OF JAVA AND MADURA

	Jakarta		Rural markets Java and Madura	
	Rice/ kerosene	Rice/ textiles	Rice/ kerosene	Rice/ textiles
1971	100	100	100	100
1972	105	101	119	121
1973	123	128	158	142
1974	109	84	146	106
1975	119	106	157	127
1976	107	121	192	170
1977	102	117	191	167
1978	105	119	196	172
1979	98	111	216	170
1980	71	-	184	164
1981	I	121	-	187
	II	123	-	174
	III	123	-	175
	V	126	-	196

Source: Appendix Table IIB.10.

2.35 Summary. There have been important changes in relative prices in Indonesia during the last 15 years. Most noticeable are the large increases in rice prices in rural areas of Java over the last decade, relative to kerosene and textiles. At a more aggregative level, the price of agriculture has increased, relative to manufacturing and the rest of the secondary sector over the 1970s, while it appears that it has not changed relative to services.

Trends in Real Wages

2.36 Next, we review the evidence on trends in real wages in specific sectors of the Indonesian economy. There are no wage series which cover several sectors; the few series which can be pieced together are discussed below.

2.37 Agricultural Wages in Selected Villages in West Java (The Makali Series). One series has been compiled by the staff of the Agro-economic Survey Unit in Bogor from the monthly records kept by subdistrict agricultural officials at centers adjacent to the six sample villages which are being studied by the unit as part of its Rural Dynamics Study project. In all except one case, the same individual kept these records for the entire period

beginning in 1967. The material was assembled by Makali and White at Bogor, ^{1/} and they have produced a series of real wages since 1967. Makali and White converted the average daily wage rate for each month into kilograms of milled rice which it could buy in the nearest market at the time the work was performed. They then presented an annual series beginning in 1967 by averaging the real wages (in kilograms of rice) for the wet season of each year. Because of the fluctuations of the price of rice being added to those of the money wage, the series shows considerable year-to-year changes. There are also variations between the six villages. The series for all six villages are shown in Figure 1, taken from White and Makali (1979, p. 22), this portrays the course of real wages up to 1978/79.

2.38 The main conclusion from the graphs is that the intervillage difference in male real wages for hoeing have been squeezed somewhat (notice the relatively higher level of real wages at the end of the period in the low-wage village L, and to a smaller extent in village M). But overall, the picture is one of stagnant real wages, when late 1970s are compared with those of the late 1960s. White comments:

"(The villages) show a fluctuating pattern of increase and decline in the past ten years similar to those recorded in India, Pakistan, Philippines, Sri Lanka and Malaysia, but not exhibiting the peculiar drastic decline in Bangladesh. It is clear that there has been no general and dramatic rise in real agricultural wages of the type previously experienced in South Korea, ... or, Japan, which were in those countries stimulated by rising demand for industrial labor demand, and a genuine pulling of the rural population out of agriculture."^{2/}

2.39 Another point about these series which White emphasizes is that at least in the case of male (hoeing) wages,

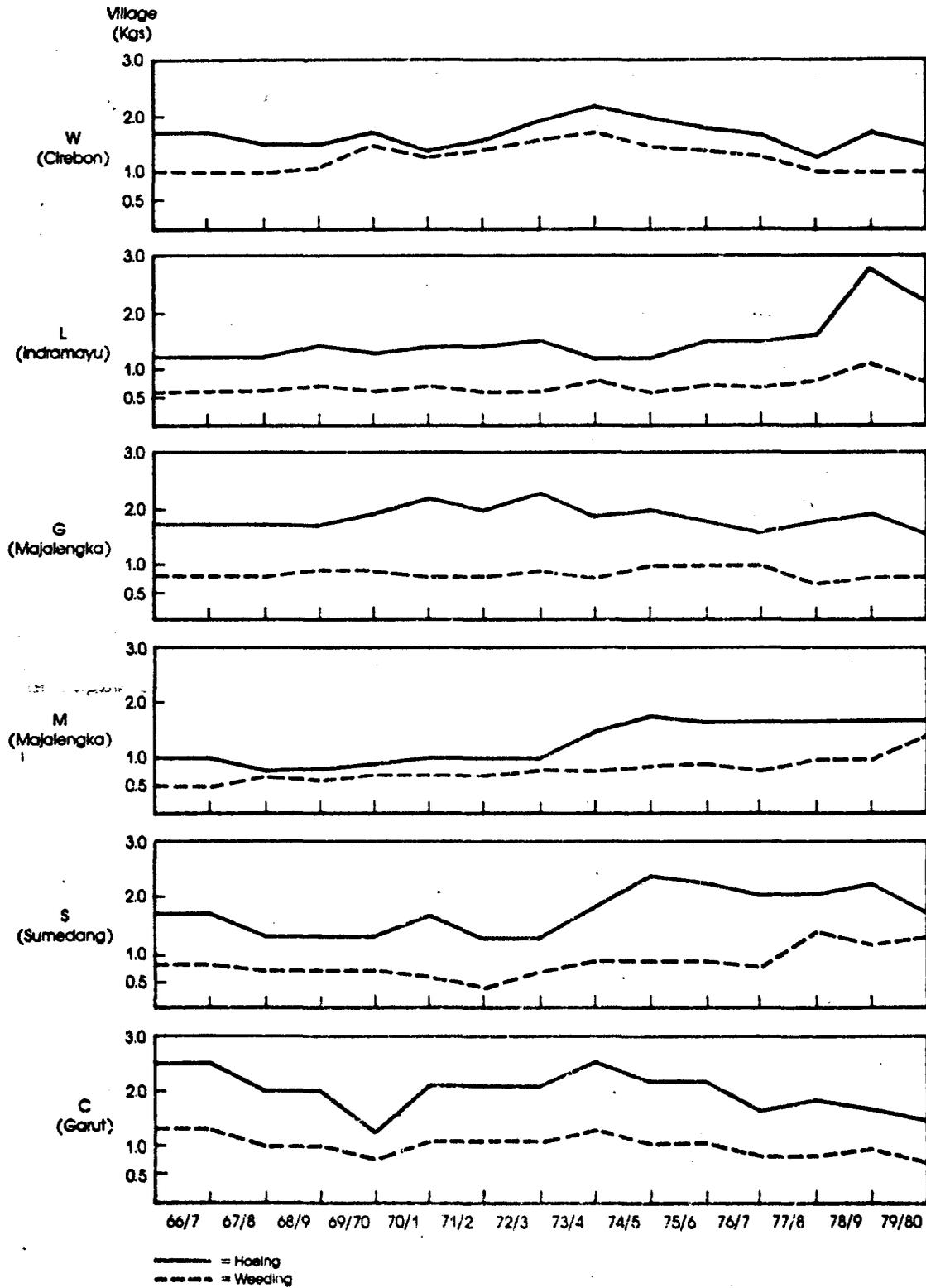
"in all the villages, except L, we can observe a period in which real wages appear to have been rising, starting in the late '60s or very early '70s and continuing for 3-4 years. In all these villages, real wage levels peaked at some time between 1972/73 and 1974/75 after which there has been a general and rather steady decline."

White explains the temporary upward pressure on wages in the early 1970s in terms of the early years of the green revolution. The adoption of the new technology saw the development of tighter cultivation schedules and the "emergence" of higher, but also thinner (of short duration) peaks of labor

^{1/} See Makali and Sri Hartoyo (1978), p. 15 and White (1978), p. 28. Figures were made available by Makali to the World Bank Resident Mission in Indonesia (communication dated October 1, 1979).

^{2/} White (1978), p. 12.

Figure 2.1
 Changes in Peak Season Real Wages 1966/67 — 1979/80 for Male
 (Hoeling) and Female (Weeding) Labor in the Wet Season in Six
 Villages of West Java (in kilograms of milled rice per day)



Source: Benjamin White (1980), Figure 2

demand in each village." ^{1/} As employers and workers alike got used to the changing work pattern, and also institutions for labor hiring began to change, ^{2/} real wages were brought down to earlier levels.

2.40 An upsurge in wages reminiscent of the experience of the early seventies is reported in the same series collected by Bogor for recent periods. Table 2.11 reproduces the real wages for males in hoeing for the last few years in the six villages. It appears that starting with probably the dry season of 1980, and continuing through the wet season of 1980-81 and into the dry season of 1981, wages have shown a significant increase in five of the six villages (the exception being village S). This is confirmed by graphical examination of quarterly wage data in each of these five villages (not shown). Also, examination of wage data for female weeders shows an upward movement for these three seasons.

2.41 Clearly, the period of this increase in wages is too short to be certain that it is any more than a temporary upsurge. The very large increase in farm food crops, 9.7% in 1980 and an estimated 7.5% in 1981, ^{3/} which represents a sharp increase over the trend growth-rate, is likely to have had an effect on agricultural wage rates. Wages which are tied to output shares - like the harvest wage - must show short run fluctuations with varying levels of output. Even time-rated wages - like those for hoeing and weeding - can be expected to show sympathetic movements when short-run changes in harvest wages are large.

2.42 Clearly, monitoring of the wage series is necessary to see if this recent upward pressure is anything more than temporary. There are also obvious difficulties in extending the observed trends in wages expressed in terms of rice in six villages, and for one occupation, to the whole of Java (and Indonesia) and to other agricultural occupations in rice and other crops. Although interoccupational wage differentials in rice are not constant in the Makali Series, hoeing is, indeed, representative of a wage trend and, in particular, of the lack of systematic wage growth. More troublesome is the

^{1/} White, ibid.

^{2/} See Chapter 3.

^{3/} World Bank (1982). Table 2.1, p. 21.

**Table 2.11: AVERAGE REAL WAGES PER DAY, BY SEASON,
WEST JAVA VILLAGES
(Kg of milled rice)**

	W	L	G	M	S	C
(a) Dry Season						
1977	2.09	2.19	1.91	2.27	2.05	1.96
1978	2.27	2.97	2.09	1.93	2.61	1.84
1979	1.94	2.61	2.04	1.78	2.08	1.59
1980	2.39	3.17	1.68	2.38	2.13	1.98
1981	2.98	2.99	3.21	2.97	2.27	2.68
(b) Wet Season						
1977-8	1.18	1.66	2.09	1.85	2.08	1.80
1978-9	1.53	2.40	2.04	1.80	2.13	1.62
1979-80	1.33	1.76	1.68	1.67	1.90	1.69
1980-81	2.87	2.40	2.35	2.38	1.96	1.84

Source: Rural Dynamic Study, Bogor (Unpublished Data made available to the World Bank). Wages are for males in hoeing.

small sample size, relative to what would be needed for adequate geographical coverage. Given the importance of rice in the rural Javanese economy, the collection of wage data in rice production during the 1970s is a task of high priority. There exist untapped sources from subdistrict offices (as the Makali series) and from research institutes at universities. At a modest cost, these could be compiled. A systematic compilation would yield much needed information about labor returns in the main Javanese crop, and it would be a basic input to study the evolution of rural labor markets.

2.43 Such compilation would also be a first step in ascertaining whether the real wage to consumers has increased over the decade, despite the apparent constancy of the real wage in terms of rice. The increase in the price of rice relative to kerosene and textiles in the rural markets of Java and Madura, pointed out in the previous section, indicates that the consumer real wage could have increased. Unfortunately, a computation of the consumers' real wage is not possible, because there is no rural cost of living index in Indonesia.

2.44 The Agricultural Wage Series of the Central Bureau of Statistics. The Central Bureau of Statistics has collected monthly wage data since 1976 from a sample of three Kecamatan in each Kabupaten. Along with price data

collected from the local market, the series has been published by the CBS.

^{1/} White has calculated in real wages (measured in kilograms of milled rice per day) based on these data for 1976-1979. His figures updated to 1981 are reproduced in Table 2.12. The series confirm the general conclusions drawn from the Makali-White series for the second half of the 1970s. (Note that the sources for the Makali-White series were data collected by local officials of the Department of Agriculture, different from the present set collected by local officials of CBS, and that the coverage of villages is quite different.) The figures also confirm the upward movement of wages in 1980 and 1981.

2.45 The apparently larger geographical coverage of this series gives greater confidence to the conclusion that real wages in rice have stagnated across Java in the face of significant growth in output per head for most of the last decade. Attention should, however, be drawn to the very large differences in the level of real wages in different regions of Java, for the same agricultural occupations. The constancy of real wages within each region implies maintenance of the inter-regional wage differences over time. The causes and mechanisms for this behavior of rural wages merit much more research. For the moment, it is important to note that when this report refers to the constancy of real wages, this means (a) the constancy of a band of wage rates for the same occupation and (b) the relative positions of different regions of Java within the band have not changed very much.

2.46 The Wage Series from the Padat Karya Program. The Government of Indonesia has a program of Labor-Intensive Public Works in rural areas to increase employment opportunities in these areas. The projects are generally for roads, irrigation and deforestation, and each project lasts three to six months normally in the dry season. Landless workers from poor areas are given priority. The wages paid to the workers recruited for these projects are decided every year in consultation with the Provincial Government and reflect the wage levels in the province concerned. Starting 1974/75 the system of payment was changed from kind to cash payment. The wages paid under the program for each year since, and the wage indices deflated by the Rural Index of Food Prices are presented in Table 2.13. It is apparent that for the entire period there has been little change in real wages, despite an apparent decline in 1975-77.

^{1/} Statistics of Producer and Retail Prices in Rural Java-Madura and Some Provinces Outside Java, Central Bureau of Statistics, VPD-81-01, July 1980.

Table 2.12: TRENDS IN AGRICULTURAL WAGE RATES, 1976-81,
IN FOUR PROVINCES OF JAVA
(kg of milled rice per day)

	West Java	Central Java	Yogya	East Java
<u>Hoeing</u>				
1976	2.70	1.21	0.86	1.44
1977	2.72	1.28	1.01	1.60
1978	2.68	1.33	1.06	1.61
1979	2.43	1.21	0.99	1.48
1980	2.49	1.52	1.08	1.61
1981	2.49	1.73	1.22	1.90
<u>Transplanting</u>				
1976	1.56	0.90	0.54	1.06
1977	1.62	0.97	0.64	1.12
1978	1.63	0.97	0.63	1.07
1979	1.48	0.87	0.55	0.98
1980	1.52	1.09	0.66	1.14
1981	1.57	1.24	0.75	1.36
<u>Weeding</u>				
1976	1.61	1.06	1.03	1.10
1977	1.54	1.09	1.12	1.25
1978	1.54	1.13	1.17	1.19
1979	1.41	1.00	1.07	1.08
1980	1.46	1.26	1.18	1.23
1981	1.51	1.38	1.25	1.50

Notes: These figures were calculated by B. White (communication to RSI, Jakarta, dated March 18, 1981), and updated for 1980 and 1981 by the Bank Staff from the files of BPS. White writes:

"Comparisons between provinces and between types of work may be unreliable because of the different length of the working day in each case. No information is given on the length of the working day, so calculation of hourly rates is not possible. From the levels of the nominal wages given, it is my guess that these rates include the nominal value of meals given together with the cash wage. But no information is given."

Sources: Biro Pusat Statistik, No. VPD 81-01 "Statistik Harga ...," July 1980; Prices (Table I.2.1, p. 35) and Wages (Tables I.2.54-56, pp. 88-90).

Table 2.13: WAGES PAID TO MEN AND WOMEN WORKERS
IN THE PADAT KARYA PROGRAM
(Rp per day)

Year	A <u>/a</u>	B <u>/b</u>	Area A	
			Index of money wage	Index of real wage <u>/c</u>
1974/75	150	200	100	100
1975/76	150	200	100	83
1976/77	150	200	100	63
1977/78	250	300	167	98
1978/79	300	350	200	107
1979/80	350	400	233	109

/a Jawa Tengah, D.I. Yogyakarta, Jawa Timur, Bali, NTB das Sulsal (Sulawesi: Selatan added from 1977/78).

/b Jawa Barat, Sumatra, NTT (Sultel, Sulawesi, Tenggara, and Kalamantan Selatan added from 1977/78).

/c Deflated by the Annual Index of 12 Food Articles in Rural Areas except for 1979/80 (for which the average of the indices for the first six months of 1979 has been used).

2.47 Earnings in Estates. The best documented series on earnings are for labor employed in estates. Separate series are available by crops and provinces, and for temporary and permanent workers. The data indicate the wage bill (and bonuses) paid to workers for each quarter of the year, as well as the number employed in each category of labor. Thus, we can get a series of average earnings of workers, not wages. It would be best to focus on the average earnings of temporary workers, since these earnings are probably fairly immune to institutional influences. There is, however, a problem in the data set for temporary workers which prevents the derivation of a meaningful series on earnings for this group. The problem arises from the large month-to-month (or perhaps even day-to-day) fluctuations in the number of temporary workers and the fact that the data on total employment and the total wage bill are presented only for each quarter. The average earnings for each quarter thus tend to fluctuate depending on the period of time for which an average temporary worker was employed during the quarter in question. Several adjustments were attempted but failed to get rid of the fluctuations due to varying average length of time of employment. This study is therefore confined to trends in earnings by permanent estate workers, whose numbers were much more stable from quarter to quarter. Clearly the earnings of these workers would not represent the "free market" wage of casual workers, and their level of earnings is somewhat higher than that of agricultural labor

in rice cultivation. But any marked change over a period of time could be expected to be at least partly sensitive to the conditions of the labor market in the surrounding areas.

2.48 The series on real earnings calculated separately for Java and Sumatra are presented in Table 2.14 for the period 1966-78. Real wages had clearly increased substantially in the latter half of the 1960s in both Java and Sumatra. During this period, plantation wages recovered to about the level of the early 1950s. We know from a longer series produced by Papanek that real wages declined for plantation workers in Indonesia as a whole from about 1954, reaching a low point in 1963 (of about half of what it was in 1954). ^{1/} The recovery seems to have petered out by 1970, and in Java, towards the end of our period, real wages for permanent workers were at the same level as in the early 1970s. There might have been a dip in real wages in 1973-76, probably due to a lag in wages responding to an accelerated increase in the price level during this period. (It will be recalled that a similar fall in real wages was noticed for the Padat Karya Program for 1975 and 1976.) The figure for 1980 for Java again shows the increase noted in the other series studied.

2.49 Wages in the Urban Construction Sector. The only available official series of urban wages relate to the construction industry in urban Java. There are two sources: one collected by the Building Information Centers (Pusat Informasi Teknik Pembangunan) of the Ministry of Works, and the other by Bureau of Statistics (BPS). Both series report daily wages for "unskilled" and "skilled" labor in the industry. Appendix Table IIB.13 gives the series on real wages at 1971 prices for two cities, Jakarta and Yogyakarta. In Jakarta skilled workers seem to have increased their earnings during 1971-78, but not unskilled workers, who might have suffered a decline in 1975-77. Construction workers of both skill categories, according to this series fared worse in Yogyakarta. Appendix Table IIB.14 gives the other series for construction workers available from the Bureau of Statistics (deflated by the cost of living of the major city of each province). The data are available only since 1976, and the real wages reported are at 1976 (first quarter) prices. These series suggest that wages in Jakarta have increased by perhaps 20% for unskilled workers, while in the provinces real wages in the period 1976-79 have stagnated or declined somewhat.

^{1/} Papanek (1979), Appendix p. 16.

Table 2.14: REAL MONTHLY EARNINGS OF PERMANENT
ESTATE LABORERS, JAVA AND SUMATRA, 1966-80
(in 1971 Rp)

	Java	Sumatra
1966	2333	2671
1967	2504	3454
1968	2276	3618
1969	2726	4489
1970	4178	5372
1971	3583	5407
1972	3555	5620
1973	2931	5378
1974	3114	5062
1975	3364	5713
1976	2538	6849
1977	3424	5493
1978	3792	6526
1979	3523	-
1980	4593	-

Source: BPS, Wages Paid on Estates, t. 23, 24 (all crops). The deflator for earnings in Java is the price index for 12 food articles in rural market of Java and Madura. The deflator for earnings in Sumatra is the CPI for Medan.

Aggregate Trends in Indonesian Development: An Overview

2.50 The previous sections have discussed some of the broad characteristics of Indonesia's development over the past 20 years. The purpose of this section is to pull these together into a broad description of economic developments in Indonesia, with emphasis on wages and employment. However superficial, this description is useful (a) to point out areas which need further work; (b) as the background for the discussion of economic policies and their consequences for wages and employment; and, (c) as a preliminary testing ground for alternative views on how labor markets operate.

2.51 The limitations of the previous sections should be pointed out. First, not all aggregate economic magnitudes have been reviewed: consumption, the accumulation of capital, foreign trade, and the return to capital services have not been considered. This is in keeping with the narrow focus of this report. But, of course, there is no valid reason to consider only output and output prices in the study of factors affecting wages and employment in Indonesia. It is done here as a useful first step.

2.52 Second, data are stretched to the limit. This is particularly true in the derivation of a 20-year employment trend. The reasons for this are that the issue is important; that rough (and unexpected) regularities appear; and that a crude employment measure (the number of employed persons) disaggregated by industry, sex and location is needed as a basis for more accurate measures of the flow of labor services.

2.53 The main findings are that, during a process of fast economic growth and sizable changes in relative prices, the growth in employment resulted more from increases in the proportion of the working age population (aged 10 years and older) than from increases in labor force participation; and it occurred at roughly constant real wages, measured in terms of the main staple food for some workers (and in terms of more comprehensive cost of living indices for others); and that it occurred more in tertiary activities than in either agriculture or in the secondary sector.

2.54 The constancy of the real wage in Indonesia has been noted in previous World Bank reports. ^{1/} However, this interpretation of the evidence contradicts the views of field research workers in Indonesia, who have often pointed out a decline in the real wage in rural areas in the seventies. ^{2/} The empirical evidence on real wage movements is incomplete. New evidence on wages throughout the 1970s should be collected: it is available at subdistrict government offices and at research files in universities. Filling this statistical gap would be a very important undertaking.

2.55 The major problems of interpreting trends in Indonesian development include the following: (i) constancy of real wages in the face of significant growth in output per head; (ii) the importance of employment growth in the tertiary sector; and (iii) the feasibility of continuing present trends for output and employment in agriculture. A comment on each of these follows.

2.56 The constancy of real wages despite fast output growth strongly suggests a pattern of growth such as that described in the models of Arthur Lewis; in these, there is a perfectly elastic supply of labor available to the developing sectors. One specific application of this model to Indonesian development, however, requires special mention. We noted that the significantly higher rate of growth of output relative to employment was valid not only for the economy as a whole, but also for agriculture. The constancy of real wages in agriculture, under these conditions, would not follow from most versions of the Lewis model (including the one originally expounded by the author). For a while, for various reasons, a perfectly elastic supply of labor from the farm to the nonfarm sectors could be expected to ensure constant real wages in the latter, but the increase in labor demand within the farm sector itself should put upward pressures on wages. This

^{1/} See World Bank (1979), 2093-IND, p. 53, and (July 1980), pp. 42 and 69.

^{2/} See the references in White (1976), p. 277, on low and declining returns to labor in rice cultivation, for the period 1968-73. See also Kikuchi et al. (1980).

tendency would be reinforced if, as we have seen in the Indonesian case, the terms of trade within the economy turned in favor of the farm sector. Why then did real wages within the farm sector fail to increase? Part of the answer might be provided by the fact that labor saving technological progress or commercialization of the labor hiring systems might have ensured that the demand for labor did not increase pari passu with increase in output. The other part of the answer probably lies in the model of the rural labor market outlined in the next chapter, in which there is a perfectly elastic supply of labor at the (high) wage offered in the rice market. In this view, the increased demand for labor in the farm sector is satisfied by the diversion of a larger number of hours of work (rather than bodies of workers) from the marginal rural activities at constant real wages in rice. This interpretation would be consistent with an increase in the consumption levels of the low-income rural population, a fact which has been tentatively suggested in World Bank (July 1980). Unfortunately, we cannot prove this hypothesis directly because of the absence of data on hours of work in different activities contributed by the rural labor force.

ON THE ESTIMATION OF THE LABOR FORCE IN 1971 AND 1980

1. Jones observed that:

"A great deal of adjustment and interpretation of (employment) data will be needed to estimate time trends in employment by sector. This kind of analysis will remain an art rather than a science."

2. This statement, made before the 1976 Intercensal Survey and the 1977/81 Quarterly Labor Force Surveys were available, remains true. Differences in definitions and enumeration rules over time complicate the task of estimating trends in labor force and employment over a 20-year period solely on the basis of discrete observations for the years 1961, 1971, 1976-88, and 1980.

3. The procedure adopted in the main text is based on changes in the population aged 10 and older, coupled with changes in labor force and employment rates, and in the sectoral employment proportions. Given the constancy of those rates over time (albeit at different levels, depending upon whether census or surveys are used), trends in the sectoral composition of employment were derived from census data alone.

4. The question of employment levels is still open, though, as it depends on the choice of labor force participation rates as measured either by censuses or surveys.

5. Jones (1978, 1980) has argued that the labor force is undercounted in the 1971 Demographic Census for two main reasons: an implausibly high proportion (15.6%) of males aged 15-19 classified in the residual activity category "Other": neither working, nor looking for work, nor attending school, nor housekeeping; and the change in the reference period for the definition of activity (down to one week in 1971, from roughly six months in 1961). His adjustments for these two reasons and similarly low activity rates for males in other age groups leads the estimates for the 1971 labor force in Table IIA.1.

6. It is worth noting that by itself the adjustment for "other" increases the labor force participation rate by three percentage points, in Table IIA.1. The difference between the overall labor force participation rate in 1979 IV SAKERNAS and 1980 IV Census (preliminary tabulations) is 4.5 percentage points (see Table 2.2). How much of this difference would disappear by applying an adjustment for "other" in 1980?

Table IIA.1: JONES ESTIMATES OF THE 1971 LABOR FORCE
THROUGH DIRECT ADJUSTMENTS

	Male	Female	Total
Unadjusted	27.6	13.7	41.3
Adjusted for "other"	28.9	<u>14.4</u>	43.3
Adjusted for reference period	<u>29.5</u>	<u>19.3</u>	48.8
Population aged 10 years and over	39.1	41.3	80.4

Source: Jones (1980), pp. 8-33, Table 8.11.

7. The answer is two percentage points, and it is derived in Table IIA.2 Of the total population aged 10-24, 46 million, 5 million are reported in the census as not in the labor force, nor attending school, nor house-keeping. Clearly, some of them must be in the labor force. Assume that it is 37% of 5 million (derived as $15.1 \div (46-5) = 0.37$), or 1.8 million. The total labor force would then become 53.9 million, and the labor force participation rate would become 52%, versus the 54.5% reported in SAKERNAS 1979 IV. Clearly, a large proportion of the difference between labor force measures in census and surveys can be very simply accounted for. Note that the category "other" is also very large for the population aged 65 and over. This group has not been included in the adjustment, though, because it is likely that a large proportion of old people are indeed not in the labor force, nor attending school nor housekeeping.

Table IIA.2: ESTIMATE OF THE 1980 LABOR FORCE THROUGH DIRECT ADJUSTMENT
(millions of people)

	Male	Female	Total
1. Population aged 10 years and over	51.3	53.1	104.5
2. Population aged 10-24	22.7	23.3	46.0
3. Unadjusted labor force	35.0	17.1	52.1
4. Unadjusted labor force aged 10-24	9.5	5.5	15.1
5. Population aged 10-24 not in the labor force, nor attending school, nor housekeeping	2.5	2.5	5.0
6. Adjusted labor force	36.2	17.8	53.9
7. Adjusted labor force participation rate (%)			52.0

Source: Census 1980, Preliminary tables.

**Table IIB.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	4,293	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.

Table IIB.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	18.9	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	67.1	65.4	64.3	66.8	63.4	63.5	69.6	65.1	54.8
20-24	89.2	79.5	83.00	91.4	91.0	91.7	88.6	92.4	91.1	90.8	90.8	91.1	90.3	93.7	92.9	84.2
25-34	94.6	91.3	93.09	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	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	33.04	51.1	37.6	41.2	38.7	38.8	36.0	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	37.7	38.83	59.7	45.1	46.5	41.6	44.6	43.3	53.4	51.7	45.4	47.1	48.8	44.6	39.7
35-44	33.8	43.1	44.66	52.4	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	49.6	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	98.2	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	63.5	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	38.4	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.

Table IIB.3: EMPLOYMENT RATES BY SEX AND LOCATION, INDONESIA
1961, 1971, 1976-1980

	URBAN		RURAL		TOTAL
	MALE	FEMALE	MALE	FEMALE	
CENSUS 1961	92.6	88.2	95.6	93.7	94.6
CENSUS 1971 C	95.1	95.5	98.1	98.6	97.8
1971 D	89.3	83.0	93.1	89.3	91.2
SUPAS 1976 I	94.6	94.1	98.8	98.5	
SAKERNAS 1976 IV	93.1	94.9	98.1	98.9	97.7
SAKERNAS 1977 I	93.0	94.3	98.1	99.0	97.7
1977 II	93.6	94.6	98.2	98.7	97.7
1977 III	94.1	95.1	98.3	99.2	98.0
1977 IV	93.8	94.3	98.0	98.8	97.6
SAKERNAS 1978 I	92.8	95.4	97.5	98.3	97.2
1978 II	93.1	96.5	97.8	98.5	97.5
1978 III	93.4	96.5	98.3	98.9	97.9
1978 IV	92.6	96.2	98.1	98.6	97.6
SAKERNAS 1979 I	91.6	93.2	97.2	98.5	96.8
1979 IV	92.7	93.1	97.2	97.7	96.7
CENSUS 1980 IV	97.1	96.5	98.9	97.9	98.2

Sources: Censuses and Labor Force Surveys

**Table IIB.4: PERCENTAGE DISTRIBUTION OF EMPLOYMENT BY SEX,
MAIN INDUSTRY AND LOCATION, INDONESIA
1961, 1971, 1978, 1979, 1980**

	Urban					Rural					Urban and rural				
	1961	1971	1978	1979	1980	1961	1971	1978	1979	1980	1961	1971	1978	1979	1980
Both Sexes															
Agriculture	11.7	10.4	9.5	14.1	10.1	81.0	72.3	68.2	72.8	65.3	71.9	63.4	59.4	64.4	54.8
Mining	0.5	0.8	0.2	0.2	0.9	0.2	0.1	0.2	0.5	0.7	0.3	0.2	0.2	0.5	0.7
Manufacturing	15.9	11.4	11.6	13.3	13.7	4.1	6.8	6.6	10.3	7.3	5.7	7.5	7.4	10.7	8.5
Transportation and public utilities	10.5	9.3	7.1	7.0	7.8	1.0	1.2	1.7	1.6	1.9	2.3	2.4	2.5	2.4	3.0
Construction	5.9	5.0	2.7	7.1	5.2	1.2	1.3	1.2	1.8	2.6	1.8	1.9	1.4	2.6	3.1
Trade	20.5	26.6	29.5	26.2	24.1	4.6	8.0	12.7	7.7	10.3	6.7	10.7	15.2	10.3	12.9
Services	33.1	32.0	39.3	32.1	36.5	5.9	6.2	9.2	5.3	10.6	9.5	9.9	13.8	9.1	15.6
Unknown	1.9	4.6	-	-	1.5	2.0	4.0	0.0	-	1.2	1.9	4.1	0.0	-	1.3
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	100.0	100.0	100.0
Male															
Agriculture	12.6	11.2	10.6	15.4	10.7	82.5	74.7	71.2	76.4	67.3	73.0	64.6	61.7	67.0	55.9
Mining	0.6	1.0	0.3	0.2	1.1	0.3	0.2	0.2	0.8	0.8	0.3	0.3	0.2	0.7	0.9
Manufacturing	15.4	10.9	11.3	12.1	13.4	3.2	4.8	4.3	5.9	5.8	4.9	5.8	5.4	6.9	7.3
Transportation and public utilities	13.5	12.5	10.4	9.5	10.7	1.3	1.8	2.5	2.5	2.8	3.0	3.5	3.8	3.6	4.4
Construction	7.6	6.7	3.9	9.8	7.0	1.5	2.0	1.9	2.6	3.8	2.4	2.8	2.2	3.7	4.4
Trade	20.9	23.8	25.0	21.1	20.2	4.0	6.4	9.1	5.6	7.5	6.3	9.1	11.6	8.0	10.1
Services	27.5	30.5	38.5	31.8	35.2	5.6	7.2	10.6	6.2	11.0	8.6	10.9	15.0	10.1	15.9
Unknown	1.8	3.2	-	-	1.3	1.5	2.9	0.0	-	1.0	1.6	3.0	-	-	1.1
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	100.0	100.0	100.0
Female															
Agriculture	8.8	8.0	7.1	10.8	8.5	77.1	67.9	62.8	65.9	61.4	69.0	60.8	55.1	59.3	52.5
Mining	0.1	0.2	-	0.1	0.2	0.1	0.0	0.2	0.0	0.4	0.1	0.0	0.2	0.0	0.4
Manufacturing	17.5	12.7	12.3	16.3	14.6	6.5	10.6	10.9	18.4	10.3	7.8	10.9	11.1	18.1	11.0
Transportation and public utilities	1.4	0.8	0.1	0.8	0.6	0.2	0.1	0.1	0.0	0.1	0.3	0.2	0.1	0.1	0.2
Construction	0.7	0.3	0.2	0.2	0.7	0.2	0.0	0.0	0.4	0.2	0.2	0.1	0.0	0.4	0.3
Trade	19.0	33.8	39.4	38.9	33.6	6.2	11.0	19.3	11.6	15.8	7.7	13.8	22.1	14.8	18.8
Services	50.4	36.0	41.0	32.9	39.8	6.7	4.3	6.7	3.6	9.9	11.9	8.1	11.4	7.1	14.9
Unknown	2.0	8.3	-	-	1.9	3.1	6.0	-	-	1.8	2.9	6.3	-	-	1.8
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	100.0	100.0	100.0

Notes and Sources:

1961: Population Census 1961, SP-11, t.8, 8.1, 8.2, pp. 32-34.

1971: Table for total employment by sex and location. Breakdown by main industry obtained by applying the employment ratios in 1971 Population Census, Series C, t.7, p. 58-59.

1978: Table 8.1 for total employment by sex and location obtained by applying the employment ratios in 1978 National Labor Force Survey, (SAKERNAS), IV Quarter, See SAKERNAS, t.04.

1979: SAKERNAS, IV Quarter, Table 34.

1980: Population Census 1980, Tables 37.1-37.9, pp. 148-155.

**Table IIB.5: PERCENTAGE DISTRIBUTION OF EMPLOYMENT BY SEX,
MAIN INDUSTRY AND LOCATION, JAVA
1961, 1971, 1978, 1979, 1980**

	Urban					Rural					Urban and rural				
	1961	1971	1978	1979	1980	1961	1971	1978	1979	1980	1961	1971	1978	1979	1980
Both Sexes															
Agriculture	7.9	6.0	6.3	8.4	9.5	78.1	68.3	64.0	68.5	61.0	67.9	58.9	55.2	60.0	49.7
Mining	0.1	0.2	-	0.0	0.6	0.1	0.1	0.3	0.6	0.6	0.1	0.1	0.2	0.6	0.6
Manufacturing	18.0	12.7	12.6	16.1	15.8	4.9	8.2	7.4	12.4	8.6	6.8	8.8	8.2	12.9	10.2
Transportation and public utilities	10.5	9.6	6.4	6.6	7.6	1.1	1.3	1.7	2.0	2.0	2.4	2.5	2.4	2.6	3.3
Construction	6.0	5.2	2.7	7.2	4.9	1.3	1.4	1.5	2.3	2.8	2.0	2.0	1.7	3.0	3.2
Trade	20.3	27.8	29.6	28.3	23.8	5.6	10.3	15.2	8.5	12.4	7.8	12.9	17.4	11.3	14.9
Services	35.4	34.2	42.4	33.4	36.2	6.9	6.7	9.9	5.6	11.1	11.0	10.8	14.8	9.5	16.6
Unknown	1.7	4.2	-	-	1.4	1.9	3.8	-	-	1.3	1.9	3.9	-	-	1.4
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	100.0	100.0	100.0
Male															
Agriculture	8.6	6.6	7.3	10.4	10.1	80.4	71.2	68.2	72.9	63.6	70.0	61.0	58.7	63.5	51.6
Mining	0.2	0.2	-	0.1	0.8	0.1	0.2	0.3	1.0	0.7	0.1	0.2	0.3	0.9	0.7
Manufacturing	18.3	12.3	13.0	14.5	15.8	4.0	6.0	4.7	6.9	6.8	6.1	7.0	6.0	8.0	8.8
Transportation and public utilities	14.0	13.4	9.9	9.2	10.9	1.4	1.9	2.6	3.0	3.1	3.2	3.8	3.8	4.0	4.8
Construction	8.0	7.3	4.3	10.5	7.0	1.8	2.1	2.4	3.3	4.2	2.7	2.9	2.6	4.4	4.8
Trade	20.7	24.8	24.2	21.9	19.0	4.6	7.9	10.4	6.0	8.8	6.9	10.6	12.5	8.4	11.1
Services	28.6	32.3	41.5	33.4	34.9	6.1	7.6	11.3	6.8	11.8	9.4	11.6	16.0	10.8	16.9
Unknown	1.6	3.1	-	-	1.2	1.5	2.9	-	-	1.1	1.5	2.9	-	-	1.1
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	100.0	100.0	100.0
Female															
Agriculture	6.1	4.7	4.3	4.1	8.1	71.9	62.6	57.2	60.8	55.9	62.4	54.9	49.4	53.6	45.9
Mining	-	-	-	0.0	0.2	0.2	-	0.2	0.0	0.2	0.1	0.0	0.2	0.0	0.2
Manufacturing	17.4	13.7	12.0	19.5	15.8	7.3	12.2	11.7	22.2	12.3	8.7	12.4	11.8	21.9	13.0
Transportation and public utilities	1.1	0.9	0.1	0.9	0.6	0.2	0.1	0.1	0.0	0.2	0.3	0.2	0.1	0.1	0.3
Construction	0.7	0.3	0.2	0.2	0.3	0.1	0.0	-	0.5	0.2	0.2	0.1	0.0	0.5	0.2
Trade	19.2	35.0	39.3	42.1	34.1	8.4	14.7	23.2	13.0	19.4	10.0	17.4	25.6	16.7	22.5
Services	53.6	38.5	44.1	33.2	38.9	8.8	4.8	7.5	3.4	10.0	15.2	9.3	12.9	7.2	16.6
Unknown	1.9	6.8	-	-	1.8	3.1	5.5	-	-	1.8	2.9	5.7	-	-	1.8
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	100.0	100.0	100.0

Notes and Sources:

1961: Population Census 1961, SP-11, t.8, 8.1, 8.2, pp. 32-34.

1971: Table for total employment by sex and location. Breakdown by main industry obtained by applying the employment ratios in 1971 Population Census, Series C, t.7, p. 58-59.

1978: Table B.1 for total employment by sex and location obtained by applying the employment ratios in 1978 National Labor Force Survey, (SAKERNAS), IV Quarter, See SAKERNAS, t.04.

1979: SAKERNAS, IV Quarter, Table 34.

1980: Population Census 1980, Tables 37.1-37.9, pp. 148-155.

Table IIB.6: ADJUSTED PERCENTAGE DISTRIBUTION OF
EMPLOYMENT AND ITS ANNUAL RATE OF CHANGE
INDONESIA AND JAVA, 1961, 1971, 1980

	1961	1971	1980	Rate of change (% per year)	
				1961-71	1971-80
<u>All Indonesia</u>					
Agriculture	73.3	66.1	55.5	-1.03	-1.92
Mining	0.3	0.2	0.7	-	-
Manufacturing	5.8	7.8	8.6	3.01	1.09
Transport and public utilities	2.3	2.5	3.0	0.84	2.05
Construction	1.8	2.0	3.2	1.06	5.36
Trade	6.8	11.2	13.1	5.12	1.76
Service	9.7	1.03	15.9	0.60	4.94
<u>Total</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>		
<u>Java</u>					
Agriculture	69.2	61.2	50.4	-1.22	-2.11
Mining	0.6	0.1	0.6	-	-
Manufacturing	6.9	9.1	10.3	2.70	1.37
Transport and public utilities	2.4	2.6	3.3	0.80	2.66
Construction	2.0	2.1	3.2	0.49	4.74
Trade	7.9	13.4	15.1	5.43	1.32
Service	11.2	11.2	16.8	0.00	4.56
<u>Total</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>		

Source: Population Census, 1961, 1971, 1980. The number of "employed persons" whose main sector of activity is unknown have been allocated proportionately to the different sectors in each case.

Table IIB.7: ADJUSTED PERCENTAGE DISTRIBUTION OF EMPLOYMENT
AND ITS ANNUAL RATE OF CHANGE, URBAN MALE
INDONESIA AND JAVA, 1961, 1971, 1980

	1961	1971	1980	Rate of change (% per year)	
				1961-71	1971-80
<u>All Indonesia</u>					
Agriculture	13.1	11.6	10.8	-1.2	-0.8
Mining	0.6	1.0	1.1	-	-
Manufacturing	15.7	11.2	13.6	-3.3	2.2
Transport and public utilities	13.7	12.9	10.8	-0.6	-1.9
Construction	7.7	6.9	7.1	-1.1	0.3
Trade	21.3	24.6	20.5	1.5	-2.0
Service	28.0	31.5	35.7	1.2	1.4
<u>Total</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>		
<u>Java</u>					
Agriculture	8.7	6.8	10.2	-2.4	4.6
Mining	0.2	0.2	0.8	-	-
Manufacturing	18.6	12.7	16.0	-3.7	2.6
Transport and public utilities	14.2	13.8	11.3	-0.3	-2.2
Construction	8.1	7.5	7.1	-0.8	-0.6
Trade	21.0	25.6	19.2	2.0	-3.1
Service	29.1	33.3	35.3	1.4	0.6
<u>Total</u>	<u>100.0</u>				

Source: Population Census, 1961, 1971, 1980. The number of "employed persons" whose main sector of activity is unknown have been allocated proportionately to the different sectors in each case.

Table IIB.8: ADJUSTED PERCENTAGE DISTRIBUTION OF EMPLOYMENT
AND ITS ANNUAL RATE. OF CHANGE, URBAN FEMALE
INDONESIA AND JAVA, 1961, 1971, 1980

	1961	1971	1980	Rate of change (% per year)	
				1961-71	1971-80
<u>All Indonesia</u>					
Agriculture	9.0	8.7	8.7	-0.3	0.0
Mining	0.1	0.2	0.2	-	-
Manufacturing	17.9	13.8	14.9	-2.6	0.8
Transport and public utilities	1.4	0.9	0.6	-4.3	-4.4
Construction	0.7	0.3	0.7	-8.1	9.8
Trade	19.4	36.6	34.2	6.6	-0.7
Service	51.4	39.0	40.6	-2.7	0.4
<u>Total</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>		
<u>Java</u>					
Agriculture	6.2	5.0	8.2	-2.1	5.6
Mining	-	-	0.2	-	-
Manufacturing	17.7	14.6	16.1	-1.9	1.1
Transport and public utilities	1.1	1.0	0.6	-0.9	-5.5
Construction	0.7	0.3	0.3	-8.1	0.0
Trade	19.6	37.4	34.7	6.7	-0.8
Service	54.6	41.1	39.6	-0.3	-0.4
<u>Total</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>		

Source: Population Census, 1961, 1971, 1980. The number of "employed persons" whose main sector of activity is unknown have been allocated proportionately to the different sectors in each case.

Table IIB.9: ADJUSTED PERCENTAGE DISTRIBUTION OF EMPLOYMENT
AND ITS ANNUAL RATE OF CHANGE, RURAL MALE
INDONESIA AND JAVA, 1961, 1971, 1980

	1961	1971	1980	Rate of change (% per year)	
				1961-71	1971-80
<u>All Indonesia</u>					
Agriculture	83.7	76.9	68.0	-0.8	-1.3
Mining	0.3	0.2	0.8	-	-
Manufacturing	3.2	4.9	5.9	4.4	2.1
Transport and public utilities	1.3	1.9	2.8	3.9	4.4
Construction	1.5	2.1	3.8	3.4	6.7
Trade	4.1	6.6	7.6	4.9	1.6
Service	5.7	7.4	11.1	2.6	4.1
<u>Total</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>		
<u>Java</u>					
Agriculture	81.6	73.3	64.3	-1.1	-1.4
Mining	0.1	0.2	0.7	-	-
Manufacturing	4.1	6.2	6.9	4.2	1.2
Transport and public utilities	1.4	2.0	3.1	3.6	4.9
Construction	1.8	2.2	4.2	2.0	7.4
Trade	4.7	8.1	8.9	5.6	1.0
Service	6.2	7.7	11.9	2.2	4.9
<u>Total</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>		

Source: Population Census, 1961, 1971, 1980. The number of "employed persons" whose main sector of activity is unknown have been allocated proportionately to the different sectors in each case.

Table IIB.10: ADJUSTED PERCENTAGE DISTRIBUTION OF EMPLOYMENT
AND ITS ANNUAL RATE OF CHANGE, RURAL FEMALE
INDONESIA AND JAVA, 1961, 1971, 1980

	1961	1971	1980	Rate of change (% per year)		
				1961-71	1971-80	
<u>All Indonesia</u>						
Agriculture		79.5	72.0	62.5	-1.0	-1.5
Mining		0.1	0.0	0.4	-	-
Manufacturing		6.7	11.2	10.5	5.3	-0.7
Transport and public utilities		0.2	0.1	0.1	-6.7	0.0
Construction		0.2	0.0	0.2	-	-
Trade		6.4	11.7	16.1	6.2	3.6
Service		6.9	4.6	10.1	-4.0	9.0
<u>Total</u>		<u>100.0</u>	<u>100.0</u>	<u>100.0</u>		
<u>Java</u>						
Agriculture		74.1	66.0	56.9	-1.2	-2.9
Mining		0.2	-	0.2	-	-
Manufacturing		7.5	12.9	12.5	5.6	-0.3
Transport and public utilities		0.2	0.1	0.2	-6.7	7.9
Construction		0.1	0.0	0.2	-	-
Trade		8.7	15.5	19.7	5.9	2.7
Service		9.1	5.1	10.2	-5.6	7.9
<u>Total</u>		<u>100.0</u>	<u>100.0</u>	<u>100.0</u>		

Source: Population Census, 1961, 1971, 1980. The number of "employed persons" whose main sector of activity is unknown have been allocated proportionately to the different sectors in each case.

Table IIB.11: COST OF LIVING INDEX IN JAKARTA:
FOOD AND CLOTHING (APRIL 77/MARCH 78 = 100)

	Food	Clothing	Food & clothing
1970	26.2	43.3	61
1971	26.8	44.4	60
1972	38.7	44.2	88
1973	49.7	58.3	85
1974	65.7	77.7	85
1975	81.1	84.9	96
1976	91.8	94.9	97
1977	98.5	99.1	99
1978	104.9	112.3	93
1978 I	104.1	102.1	102
1978 II	103.5	103.3	100
1978 III	104.3	105.2	99
1978 IV	107.8	110.4	98
1979 I	114.7	118.4	97
1979 II	127.2	125.9	101
1979 III	137.8	140.4	98
1979 IV	137.0	147.0	93

Source: World Bank (1982), 3795-IND Annex III, Table 9.1, p. 139.

Table IIB.12: RURAL AND URBAN PRICES OF RICE, KEROSENE AND TEXTILES
1971-81

	Rural Markets, Java and Madura			Jakarta		
	Rice (Rp/kg)	Kerosene (Rp/l)	Textiles (Rp/m)	Rice (Rp/kg)	Kerosene (Rp/l)	Textiles (Rp/m)
1971 /a	39	16	119	38	10	105
1972 /a	47	16	119	40	10	109
1973 /b	72	19	156	84	18	181
1974 /a	77	22	221	83	20	274
1975	94	25	226	104	23	271
1976	134	27	244	118	29	269
1977	140	29	259	116	30	273
1978	150	30	269	120	30	278
1979	184	35	327	134	36	334
1980	216	48	397	113	42	- /c
1981 I	246	54	441	230	50	-
1981 II	229	54	448	234	50	-
1981 III	231	54	457	233	50	-
1981 IV	258	54	458	240	79	-

/a The Jakarta prices are averages of three quarters.

/b The Jakarta prices are averages of two quarters.

/c There is a break in the series.

Source: Indicator Ekonomi, various issues. Rice quantity is a kilogramor
1.25 liters.

Table IIB.13: DAILY WAGES FOR UNSKILLED AND SKILLED WORKERS IN THE CONSTRUCTION INDUSTRY, IN 1971 RUPIAH, 1971-78

	Jakarta		Yogyakarta	
	Unskilled	Skilled	Unskilled	Skilled
1971	250.00	500.00	100.00	200.00
1972	280.79	467.99	90.12	180.25
1973	251.22	358.89	81.82	163.65
1974	228.91	330.65	79.29	145.37
1975	213.50	341.60	97.89	152.27
1976 I				
II	178.36	535.07	84.15	130.90
III	178.36	445.89	93.50	130.90
IV	178.36	535.07		130.90
1977 I	191.28	557.89	82.78	149.00
II	191.28	637.59	99.33	149.00
III	223.16	637.59		
IV	191.28	478.19		
1978 I	269.31	598.46	108.13	216.25
II	269.31	598.46	92.68	154.46
III	269.31	598.46	92.68	154.46
IV	299.23	748.08	108.13	185.36

Source: Unpublished data from Building Information Center, Department of Public Works.

Table IIB.14: CONSTRUCTION WAGES FOR DAILY PAID UNSKILLED WORKERS
BY PROVINCE, 1976-79
BASE 1976 I

	1976				1977				1978				1979			
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
Unskilled Workers																
Jakarta	407	398	380	372	392	417	461	457	452	461	496	489	497	468	435	-
West Java	407	422	416	386	399	432	412	402	393	428	421	417	392	358	337	326
Central Java	255	254	288	332	323	331	324	319	346	352	347	360	386	279	259	266
East Java	339	375	364	379	374	377	368	358	325	336	335	327	306	282	268	-
Skilled Workers																
Jakarta	809	785	750	734	720	744	735	736	775	815	808	790	745	689	641	-
West Java	588	609	586	564	549	596	589	575	566	607	597	591	556	508	478	463
Central Java	635	661	661	664	622	649	660	690	691	705	685	646	618	623	582	645
East Java	638	634	612	594	621	626	711	689	580	641	734	716	671	618	586	-

Note: 1976 I - 1979 II Cost of living index is used as deflator.
1979 II - 1979 IV Consumer price index is used as deflator.

Source: Economic Indicator, and unpublished data.

CHAPTER 3

THE INDONESIAN LABOR MARKETS: AN INTERPRETATION

3.01 This chapter examines selections from a growing body of micro studies on Indonesian labor markets which might provide some building blocks for a theory of how such markets operate. One aspect of such a theory would be to recognize that substantial differences exist in unskilled wages among subsectors of rural and the urban economies. The maintenance of the "wage ladder" - as it is described subsequently - has important implications for the question of "underemployment" or surplus labor in Javanese agriculture, and of the associated problem of shadow wages.^{1/} Another aspect of a micro theory which would draw attention to the wage ladder would be its ability to predict wage-output trends in the Indonesian economy over a period of time, as described in the last chapter. The segmented labor market model which is tentatively put forward in this chapter (and in Appendix A) suggests that rural labor would be, over a considerable range, in perfectly elastic supply to the major productive sector, rice. Thus, fast output growth at constant real wages over a period of time would be possible in the rice sector, and in other organized sectors of the Indonesian labor market, if wages in the latter were geared to movements in the real wage expressed in terms of rice.

3.02 As will become evident, the development of a complete theory as an alternative to the competitive market clearing theory of wages is not possible given the present state of knowledge. The intention of this report is modest, to highlight a few salient features of the labor market which, it is felt, would constitute essential elements of a theory. Some further notes on alternative models are given in Appendix A.

3.03 The report makes a distinction between the rural and the urban labor markets. Some people may question the usefulness of this distinction in Indonesia, where many urban areas have peripheral developments extending into the countryside and the distinction between the rural and urban economies may often seem to be purely administrative. But there are some important features which differ markedly between the rural and the urban labor markets (as given in Chapter 1) which should convince the reader that the markets in the two sectors differ in important respects. Two striking examples are: the difference in the incidence of open unemployment; and the difference in the profile of age-specific participation rates, particularly for females.

Rural Labor Market

3.04 It will be recalled from our discussions in Chapter 1 that wage labor is an important part of the agricultural sector in Indonesia - accounting for 26% of all employment in agriculture in 1977. The proportion

^{1/} These issues are discussed in greater detail in Appendices A and B to this chapter.

in Java must be higher. For male workers in rural areas of Java, 37% were employees, and for females, 36%. (The SAKERNAS data do not allow us to compute the percentage of employees in agriculture separately for Java.)

3.05 This relatively high proportion of agricultural workers engaged in wage labor is partly a reflection of the unequal land distribution in rural Indonesia, and the major importance of landlessness in the economy. In particular, it goes against some naive versions of the Geertz thesis of "shared poverty" which sometimes carries with it the implication of more or less equal sharing of available land resources. At the same time, no simple relationship can exist between the proportion of the agricultural population who are landless and the proportion of the working population which is reported to work for wages. Many small landholders devote part of their working time to wage labor both in agriculture and in other activities. The point also underlines the difficulty of interpreting small changes in the proportion of workers who report wage employment as their main activity.

3.06 It would nevertheless be of interest to consider the quantitative evidence of landlessness. Unfortunately, the 1963, as well as the 1973, Agricultural Censuses - which are the only sources of countrywide data on landholdings - specifically limited their coverage to households with some access to land, who also cultivate some of it. Thus, we have to depend on micro studies of specific villages for information on the incidence of landlessness. William Collier has collected the information from 20 Java village studies, ^{1/} The range for the "percentage of villagers who are landless" seems at first to be enormous - from 10-89%. But, a majority fall into the 46-70% range, and the mean percentage of landless is 54%.

3.07 It is, of course, even more difficult to document the distribution of land ownership in Javanese agriculture, because of the inevitable attempt by large landowners to conceal the nature of their holdings since the 1960 land reform. Collier reports the data collected by trained researchers in five study villages in East and Central Java who carefully examined everyone in the villages over a period of time. The information is probably more accurate than usual surveys, particularly ^{2/} as some of the researchers were born and raised in the villages in question. The incidence of landlessness was again found to be high - ranging from a low of 32% of the total number of households to a high of 63%. In addition, marginal farmers with less than 0.5 ha of land constituted another 20-30% of all households. The largest landowners accounted for less than 10% of all households and owned between a third and one half of all agricultural land in the village. The data cited

^{1/} William Collier, "Declining Labor Absorption in Javanese Rice Production", Rural Dynamics Study No. 2, Bogor, Indonesia, Table 8, p. 37.

^{2/} William Collier, "Declining Labor Absorption in Javanese Rice Production", Rural Dynamics Study No. 2, Bogor, Indonesia, Tables 9 and 10, p. 40.

are, of course, only illustrative. But they support the basic conclusion that in spite of the small size of farms in Java, land is unequally distributed, and landless laborers along with marginal farmers are a large proportion of the rural population.

3.08 This does not mean that Javanese agriculture is characterized by a capitalist system of cultivation in which large landowners employ wage labor. In fact, there is not much evidence of wage labor being employed in agriculture year-round as permanent servants attached to specific farms. While a portion of wage workers in agriculture must be on annual contracts, this employer-employee relationship does not figure much in the discussion of field workers, suggesting that its significance is limited. Much more important is the daily wage contract, with workers being hired to perform a specific agricultural operation as and when required. Small as well as larger landowners make use of daily wage labor in this way. At the same time small farmers also sometimes hire themselves out as wage workers, so that they often appear as both demanders and suppliers of labor in the market.

3.09 It would however, be inappropriate to conclude that hiring of daily labor is completely random - as would be the case in a perfect casual labor market. As we shall see, there are important social factors in the selection of labor for particular agricultural tasks, which create a distinction between the favored and the less favored job seekers. Another relevant point is that even though annual labor contracts are very unusual it is quite common to observe labor tying, that is, the same workers return year after year (or season after season) to work for specific landowners. There is some evidence to suggest that labor tying has increased with the growing commercialization of agriculture. (This point is discussed subsequently in this chapter.)

3.10 Clearly, with daily contract as the predominant form of wage employment, open unemployment for an entire month or even a week is very unlikely. But it is entirely possible for labor to be unemployed on any particular day. The incidence of such underemployment can only be revealed by detailed field studies which examine the activities of different demographic groups in rural areas. The starting point for analyzing rural labor markets is the examination of available studies on this point - and this will also introduce the diversity of labor markets in rural areas and their inter-relationships.

Labor Utilization in Javanese Agriculture

3.11 The degree of utilization of labor in rural Java is well summarized by White: "The more direct and intensive the research methods used, the more it appears that Javanese villagers are rarely idle." ^{1/} In an intensive survey of 20 households (104 individuals) in a Central Java village - all of whom owned less than 1 ha of rice land - White found that adult men did a

^{1/} Benjamin White: "Production and Reproduction in a Javanese Village." Unpublished Ph.D. thesis, Columbia University, 1976, p. 90.

total of 8.7 hours of work per day throughout the year, while adult women did 11.1 hours daily. Excluding the work of household maintenance, men spent 7.9 hours daily in market activity and women 5.9 hours. This evidence of reasonably long hours spent in income-earning opportunities on the part of both men and women is confirmed by other studies of labor utilization in Java - for example, by Edmundson in three East Javanese villages^{1/} and by Gillian Hart in Central Java.^{2/} This also agrees with studies of peasant agriculture in other economies when there is heavy population pressure on the land - for example, Bent Hansen's study of labor utilization in Egypt.^{3/} In densely populated agricultural areas, a low return to labor per unit of time does not generally lead to overt idleness. On the contrary, the need to attain a tolerable level of income might force the population to spend long hours in market activity.

3.12 While this point is important, it may nevertheless conceal some significant aspects of the pattern of work activity in peasant agriculture, which are crucial to understanding the labor market in rural Java. These are: the multiplicity of market activities, the interclass differences in market participation, and the seasonal variation of activities.

3.13 The Multiplicity of Market Activities. Although rice cultivation is the single most important activity in Javanese agriculture, the amount of time spent in growing rice is rarely as much as one half of the total market activity, and often, less even for those whose main occupation is agriculture.

3.14 A survey by the Rural Dynamics Team of the University of Bogor recorded the amount of time spent in different activities in six villages in West Java. The study reported labor utilization of three classes of agriculturists - ranging from the large to the nearly landless. The data are reproduced in Table 3.1.

1/ Wade Edmundson: "Land, Food and Work in Three Javanese Villages." Unpublished Ph.D. thesis, Department of Geography, University of Hawaii, 1972.

2/ Gillian Hart: "Labor Allocation Strategies in Rural Javanese Households," unpublished Ph.D. thesis, Cornell University, 1978.

3/ Bent Hansen: "Employment and Wages in Rural Egypt," American Economic Review, June 1969, 59, Table 1, p. 300.

Table 3.1: PERCENTAGE OF HOUSEHOLD WORKING HOURS, 1975/76

Activity/class of households <u>a/</u>	I	II	III
	< 0,25 ha. %	0.25-0.50 ha. %	> 0.50 ha. %
Household & annual crop	4.4	3.9	1.6
Rice farm	20.0	10.2	3.8
Secondary crop	6.8	4.2	2.3
Farm labor	10.9	16.4	25.2
Trading	16.9	15.0	30.9
Handicraft	10.2	26.9	20.0
Fish pond & livestock	19.2	15.6	8.7
Other nonagriculture	7.1	5.3	6.3
Mutual help	4.7	2.5	1.8

a/ Originally White and Makali classified Class I households as having more than 0.50 ha of land, Class II between 0.25 ha and 0.50 ha, and Class III less than 0.25 ha (including same landless). The numbering of three classes given here is the reverse of that in the above paper.

Source: Benjamin White and Makali (1979), p.38.

3.15 Even if we assume that all "farm labor" is expended on rice cultivation, the proportion of man-hours spent in rice is less than 30% for all three classes, even though these villages generally grew two crops of rice.

3.16 Gillian Hart's intensive study of labor utilization gave the following percentage distribution of time spent in different labor markets by adult men and women workers in her sample (all households taken together). 1/

1/ Gillian Hart, op. cit., Table V-9, p. 146.

	Rice inside village %	Rice outside village %	Sugarcane %	Fish pond %	Tobacco %	Other %	Total %
Women	49.2	16.0	32.8	-	-	2.0	100.0
Men	28.1	11.4	13.0	32.2	7.1	8.2	100.0

3.17 The importance of fish pond labor (in which women do not participate) gives Hart's coastal village a certain peculiarity. In White's villages a substantial amount of labor time was taken up in trading, animal care and feeding, and in handicrafts.

3.18 By concentrating exclusively on the rice labor market, observers may sometimes have underestimated the time typically spent by an agricultural laborer in gainful activity. This mistake has been made in other parts of the world because of the preoccupation with the main agricultural crop. ^{1/}

3.19 Interclass Differences in Market Participation. Important relationships between the market activity of household members and the economic status of households have been revealed by recent field research in Java. Since decisions on participation by different age-sex groups in a household are interdependent, it is appropriate that the household should be used as the unit of analysis. Gillian Hart divides her sample of households into three economic groups, much as do Makali and White. ^{2/} Her data on labor use in different activities by different demographic groups in the three classes show that there is relatively little difference in the working time in economic activity for adult males across classes (though naturally Class I male workers spend more time working with their own productive assets). But the hours worked in market activity increase sharply both for women and children under 15 as the asset base of the household decreases. ^{3/}

^{1/} Cf. Bent Hansen reports that male "farmers" spent only 53% of their time in field work, while male farm laborers spent 58% in such work. For women the proportions were 19% and 31% of their total market activity, op. cit., p. 300.

^{2/} Hart's principle of classification is the control over productive assets (mainly rice land) and the ability of households to meet their consumption needs by the use of these assets. Class I households can attain a net income of at least 300 kg of milled rice per consumer unit p.a. from the land they control, Class II can cover "stable food needs" (150 kg of rice per consumer unit), while Class III households cannot even meet these needs.

^{3/} See, in particular, Hart, ibid., Table V-5, p. 131.

3.20 The proportion of time devoted to housework by women decreases from two thirds for Class I females to somewhat less than one half for Class II, and to as little as one third for Class III. At the same time, the proportion of time devoted to wage labor increases substantially for women as we go down the economic ladder. Apart from work on their own farms, the major amount of off-farm work done by Class I women is in trading which with some access to capital can be very lucrative. Class III women spend most of their work outside the household in wage employment, often in fields beyond the village (involving a significant amount of travelling time.)

3.21 A striking feature of the Hart's data is that the amount of time devoted by girls aged 10-15 to wage labor is almost as much as women in Class III households: it is three times the number of hours of wage labor contributed by girls in the next higher economic class. Boys aged 10-15 also devoted larger amounts of time to market activity in the lower classes, but with two qualifications with respect to the activity pattern of young girls: between Class II and Class III households the increase in the number of hours worked is not very large; and boys participate more in "fishing and gathering" than in wage labor.

3.22 Seasonal Variations in Activity. There is a well-known seasonal cycle, in the cultivation of the main crop (rice) in Javanese agriculture, the slack period extending between planting and harvesting of each season's crop. (There are in many areas two crops, a dry season and a wet season one.) Generally speaking, the slack months are from January through March, and from June through August. But although the fall in rice employment in the slack season is substantial, the evidence from available field studies suggests much less fluctuation in directly productive work. Thus Benjamin White reports: "Comparing the five markedly "busy" months and seven markedly "slack" agricultural months for men and women, we find that while the percentage of directly "productive" working time devoted to agricultural work declines from 48% to 29% (for men) and 36% to 11% (for women), there is no significant change in the total daily input of "directly productive" work for either sex." ^{1/} Thus seasonal fluctuations do not take the form of substantial variation in unemployment, but in the proportions of different kinds of market activity, particularly for agricultural and nonagricultural work. Similar results emerge from Gillian Hart's field work in a different type of village, in which the proximity of sugar cane and fishing provides clear alternatives to rice cultivation. ^{2/}

3.23 Labor's response to this seasonal variation in demand is largely manifested changes in participation in market activity, particularly in the case of women and children of higher economic classes. Hart reports that in the slack season, with the large decrease in wage rates, small landowning females withdraw completely from wage labor. Landless girls and women,

^{1/} Benjamin White (1976), p. 281.

^{2/} Gillian Hart, op. cit., Figures V-6 and V-7, pp. 147 and 149.

however, cannot afford to do this. Thus, the observed difference in the total time worked in wage labor between the classes is partly accounted for by the different seasonal patterns of participation in the labor market.

Patterns of Returns to Labor in the Rural Sector

3.24 The last point brings us to the variations in returns to labor from different activities. Households from different economic strata participate in different ways in the labor market and thus have varying levels of labor earnings. Two previous points will be better understood within a standard framework of "perfect labor markets." These are (i) the differences in returns to labor for clearly distinguished age-sex groups; and (ii) the seasonal variations in wage rates. Households of lower economic status, because of the lower reservation price of potential workers, contribute more women and children to the labor market, and relatively more in the slack season than higher income households.

3.25 Recent research in Javanese labor markets is, however, beginning to highlight another reason for the lower return to labor supplied by poor households. This is the existence of differential wage rates within the same village's labor market for a given age-sex group and season. Wage rates in some types of activities are systematically higher than in others, and, insofar as workers from households with a higher economic status have better access to the "good jobs" in the rural sector, the returns to such labor are higher. This view of the rural labor market is, as we shall see, significant in the interpretation of trends in output and real wages in Indonesia in the last decade, as well as in the analysis of shadow wages.

3.26 It will be recalled that labor time devoted to rice cultivation takes up only a small part of the total market activity in rural Java, and that there is a marked seasonal variation in labor use in rice. But the returns for an hour of work seem to be the highest in the labor market for rice. A number of field studies in the 1970s in Java have established the pervasive tendency for returns to nonagricultural work in the rural areas to be at a lower level than the returns to agricultural labor, particularly rice. In White's field study of a poor village in Yogyakarta, the wages of agricultural wage labor were Rp 20/hour for men, Rp 24/hour for women in transplanting, and Rp 36/hour in harvesting. The various marginal activities - handicrafts, minor trading, sharecropping palm trees to make coconut sugar, etc. - earned between Rp 6-10/hour. (The figures are given in 1976 prices).^{1/} Apart from estimating returns to labor, White's direct observation confirmed that wage labor in rice was regarded by workers in the village as the top of the hierarchy of income-earning activities. White writes:

"If we were to rank the various productive opportunities in order of their returns to labor (with harvesting at the top, mat-weaving

^{1/} Benjamin White quoted by Gordon Hughes, World Bank draft, p. 20.

at the bottom and so on) we would expect to find that households would whenever possible choose the available combination of activities with the highest total returns to labor. Thus for example, women will often stop or reduce their trading or mat-weaving activity during harvest time to take advantage of the better returns in harvesting. Men may remain at home, cooking and babysitting to free their wives for the harvest; young children may herd livestock or cut fodder when there are wage-labor opportunities for their fathers, or they may cook and babysit while their father cuts fodder and their mother is planting rice, are so on. Mat-weaving is normally done only at times when there is no more productive activity available, particularly at night, or when one cannot leave the house (weaving, cooking and babysitting are often combined). It is hardly surprising that there are virtually no 'full time' mat-weavers (exceptions are elderly women who can do no other kind of work), for at some times of the year when rice prices are high and mat prices low it would require 20 hours of weaving per day to provide one adult with rice. "^{1/}

3.27 A similar view was recorded by Penny and Singarimbun (1973) in another village in Yogyakarta.

"The rice enterprise ... is regarded as being by far the most important single way of making a living - by the rural people themselves, and by the vast majority of other Indonesians.... Most of the "other work" moreover, is low paying and distinctly not preferred." ^{2/}

3.28 Most intensive micro studies in rural Java have established that nonagricultural activities in rural areas are on average, a marginal activity for farm workers. References include Hart (1977), Kabul (1977), Rozany (1978), Sawit et al. (1979), White and Makali (1980), for villages in Central, East and West Java for the first three, respectively, and for six villages in different provinces for the last study. ^{3/}

3.29 The segmentation of rural labor market is only one aspect of the operation of Javanese labor markets. The typically easier access to higher wage employment by workers of richer rural households is a second important

1/ Benjamin White, op. cit., p. 280.

2/ Penny and Singarimbun (1973).

3/ Hart, Gillian, op. cit. Kabul, Santoso: The Income Distribution and Employment in Desa Surbarajo Pasunam (M.S. thesis, Bogor, 1977). Rozany, Nurmanaf A. et al.: Report III, Analysis of Rural Labor Utilization in West Java (Bogor, 1978). Sawit, M. Husein et al.: Rural Dynamics Study, Report 1977/78, Bogor 1979. White B. and Makali, H: Wage Labor and Wage Relations in Javanese Agriculture: Some Preliminary Notes from the Agro-Economic Survey (The Hague, May 1979).

feature which field workers have recently shown. The most careful and elaborate evidence on this point comes from Gillian Hart. Hart studied the earnings function separately for males and females, and also for each month of the year in which the monthly wage labor income by sex was related (i) to the value of productive assets controlled by the household, and (ii) the hours per month spent in wage labor. The first independent variable assesses the influence of status per se on the return to wage labor, and the second tests the hypothesis that workers who put in longer hours (as those from poorer households might be expected to do) will tend to get a lower return to their labor. For males the asset variable turned out to be significant in 8 of the 12 months. Hart suggests that the four exceptional months are those of peak demand for land preparation and for fishing. The earnings function for females, on the other hand, shows a much smaller effect of the assets variable, except in the harvesting months. As already mentioned, females from the richer households tended to withdraw from the labor market in the slack seasons when wage rates declined. This is consistent with Hart's result that the wage effect of the number of hours worked was significantly negative for females in most months of the year, but not for males. It should be noted that the positive relationship between the possession of assets and the returns to labor in Hart's equation tells only part of the story. The analysis does not include the income from nonwage labor or self employment, and this part of labor income may be even more strongly related to economic classes.

3.30 The association between high returns per unit of labor and the household economic status, while consistent with the hypothesis of preferential selection of higher status workers for better jobs, is not conclusive evidence of the theory. An alternative explanation of the relationship would be that higher status workers are drawn into the labor market at particular times of the year, and have to be paid a higher rate to match their higher supply price. Two pieces of evidence would tend to favor this hypothesis: (i) Hart's evidence shows that the incidence of higher returns to workers from higher economic classes is typically in the slack seasons, while the alternative hypothesis would require that marginal workers with higher supply prices are utilized when there is additional demand for labor in the busy season; and (ii) field workers' direct observations on preferential treatment to some classes are really crucial on this point. Hart describes that in her study village there were opportunities for work in sugarcane fields, and some harvesting for cash wages (tebasan contracts) outside the village, in the slack season of rice cultivation. But the returns to labor in these activities were low; sometimes the workers had to undertake commitments to work for a specified period with the mandum (supervisor), and wage rates were further reduced by having to spend two to three hours a day walking to and from work. Hart observed that workers from landless families participated in these types of wage labor, while the more remunerative jobs within the village (although sporadic and intermittent) went to workers from the higher status households. ^{1/} Further field evidence on preferential treatment of different classes of workers in the important operation of harvesting is given in the next subsection.

^{1/} See Hart (1978), pp. 166-68.

3.31 The factors causing the differentiation of the high wage rice labor markets from other rural labor markets, as well as the differential access to the rice market by different economic classes cannot yet be fully explained by available research. It is, however, unlikely that economic factors alone could provide a satisfactory explanation. The market for wage labor in rice is very much like the "formal" sector of the urban labor market which has attracted much attention in the literature. It is very likely that labor used preferentially in these high wage organized markets in the rural areas would be seen to be "superior" by employers. For example, they might be more productive because of their better nutritional standards. It has also been mentioned by some field workers that families with some land often provide one another with opportunities for wage labor in their respective rice fields. It will probably be difficult in practice to pinpoint the "superiority" of labor supplied by landholding families. The substantive point is that their real or assumed superiority stems from their economic class which is higher than that of landless families.

"Surplus" Labor and Seasonality

3.32 It is possible to suggest a model of the Javanese rural labor market in which surplus labor in the sense described above (i.e., earning lower wages than the rice sector wage) exists only in the slack seasons. The fact that additional workers from relatively high-income households are drawn into the labor force in the busy seasons (at higher wage) might suggest a scenario of "full" employment in peak periods. But of course, although wages, as well as the supply of labor are higher in the busy season, it does not follow that wages in the rice sector clear the market, in the sense of equating the supply and demand for labor. Certain additional evidence would be useful: (i) is there a substantial amount of labor in marginal activities, earning significantly less than the rice wage even in the busy season; and (ii) is there evidence of discrimination against particular groups of workers in the peak period?

3.33 Clearly, further micro studies of rural labor markets are required to examine these issues. ^{1/} Some of the data available from existing reports on the village studies refer to the whole year. White's work in a village in Yogyakarta, already cited, ^{2/} refers specifically to the winter busy season of 1973. Another relevant question is: how long is the peak? White makes the point that a peak activity like harvesting in a typical field in his study village lasts no more than a few hours.

1/ The mission's recommendations on further empirical work are summarized in p. (viii) above.

2/ See p. 79 above.

3.34 A field study by Ann Stoler of labor recruitment for harvesting in a village in South-Central Java sheds important light on the availability of abundant labor for this remunerative task, and on the nature of discrimination between different groups of jobseekers.^{1/} The two harvests in the village (in the summer and in the winter) are periods of peak labor demand as the tasks must be done precisely and at the right time, with little possibility of staggering. Traditionally, it is a female occupation. Small farmers, in addition to employing household members, typically invite females from neighboring households to undertake harvesting.

"By allowing members of a neighboring household to participate and paying them in kind with a relatively large share, a farmer is insured that female members of his or her household will be given reciprocal employment opportunities. Such arrangements are as much a means of spreading the risks of cultivation as they are a means of meeting labor requirements."^{2/}

Large farmers employ harvesters from outside this network of kin and close neighbors.

"As many as 50 to 150 women are used to reap the padi on fields of half a hectare and above. A large proportion are orang bin (literally "other people") from within and outside the village who seek out these larger fields where their harvesting chances are greater."^{3/}

3.35 Stoler makes the crucial point that "the notion that there is one set wage that prevails throughout a region or that applies to all harvesters on all types of land imposes homogeneity on a complex distribution system". Rather, the size of the bawan (the share of the harvested crop paid out) typically depends on the social proximity of the harvester to the host household.

"Close relatives receive from one fourth to one half of what they harvest ... shares of one sixth to one eighth are given to women from neighboring households (tetangga), defined not only by their physical proximity to the host household, but by their mutual participation in gotong-royang activities. Shares of one tenth to one twelfth are given to orang bin, that is distant villagers and nonvillagers who fall outside the first two categories. In other villages the bawan for this group may be as little as one twentieth."

^{1/} Ann. L. Stoler (1977).

^{2/} Ibid., p. 682.

^{3/} Ibid., p. 683.

3.36 Harvest labor by landless families, who operate outside the social network system, thus get a significantly lower harvest wage than landowning families, although they might work more harvesting days per household.^{1/} Wages are not equalized for harvesting labor from different economic groups as in a perfectly competitive market. On the other hand, in terms of a model of "competitive monopsony", with each farmer facing an upward sloping supply curve of labor to himself, the larger landowners would pay higher wages since, because of their larger demand, they have to attract labor from landed families with a higher marginal supply price. But the outcome of the social network system is the opposite. It is the larger landowners who pay an effectively lower harvest wage, as they employ a larger population of harvest labor from landless families.

Technical Change, Commercialization and "Surplus" Labor

3.37 The description of the bawan harvesting system in the previous section suggested that Javanese social relations ensured that some farms would employ more labor in harvesting at a higher effective wage than the wage harvesters from landless families were willing to accept. That is to say "surplus" labor existed within the body of workers involved in harvesting. The social determination of harvest share meant that the wage of harvest labor was higher than its marginal product.

3.38 Recent field studies of Javanese agriculture have pointed to what could be called "rationalization of labor use" in industrial economics, namely the tendency to reduce the complement of labor for a given task, bringing the marginal product of that labor close to the wage paid. The following developments have accompanied higher labor productivity associated with the new rice technology: increased interest in rice production as a commercial proposition (e.g., by new landowners from outside the village community acquiring land as a capital asset); and the change in the structure of political power within the village, which has reduced the importance of traditional relationships between landlords and laborers.

3.39 A major institutional change along these lines has been the shift in many parts of Java from the traditional bawan system of harvesting to the tebasan system. Instead of the wide sharing of output among community members, under the new system, farmers sell their standing crops to middlemen called penebas, sometimes before the harvest. The latter, who often come from outside the village, are not bound by traditional obligations. They can foreclose the opportunity for harvest employment to the majority of the villagers, and hire only a small number of more regular workers to harvest their crops.^{2/}

^{1/} In Stoler's study 15 landless households had 43.8 harvesting days per household with 2.5 kg of rice for harvesting day. By contrast 39 households with some land (< 0.2 ha) contributed 25.3 harvesting days for households with a payment of 3.1 kg per day (see ibid., p. 685).

^{2/} See, for example, W.A. Collier et al. (1974).

3.40 Field workers have reported that in some areas, even though there has not been a pronounced shift to the tebasan system, landowners in recent years have tried to rationalize the harvesting system with the dual objective of limiting the number of workers in harvesting, and reducing the share of wages in total output. An example is the ceblokan system reported by a team of field workers in a West Java village. ^{1/}

"This system limits participation in harvesting to workers who performed extra services (e.g., transplanting and weeding) without pay. The system reduces the real wage rate of harvesters because the same share of output is paid for a larger amount of work." ^{2/}

The field survey reports that by 1978, the shift from the bawan to ceblokan system was complete, with the larger farmers taking the lead. The authors argue that in the past with lower yield and a higher man-land ratio, the customary bawan one-sixth share might have resulted in an effective marginal product of harvest labor close to the market wage. But with increasing population and rising yields, if the traditional share of harvest were maintained, the marginal product of labor would have been much above the market wage. Landowners had the option of switching to a system of harvesting using casual daily-paid workers. But this would have represented too much of a break from the traditional practices in the village. The institutional compromise was to reduce the number of harvesters and also cut their effective wage by asking them to perform additional agricultural operations for the landowners without pay. An additional feature of the new system was that it helped strengthen the patron-client relationship between the employers and the select body of workers who obtained exclusive harvesting rights.

3.41 A similar development is described by Frans Husken in a village on the north coast of Central Java. ^{3/} Husken draws a sharp distinction between agricultural laborers in the village who sell their labor rather indifferently to all landowners, and sharecroppers "who have rather a close and practically exclusive relationship with a single landowner." Husken reports that in this village, with commercialization and intensification of cultivation, landowners have come to depend much more on the sharecroppers than on the traditional system which gave the women from laborers' households the right to participate in harvesting. Since the sharecroppers do virtually all the agricultural operations and also often other odd jobs for their patron landowners, the effective cost of labor to the landowners is lower, while total employment per unit of output is reduced. Thus, far from being an institutional form for sharing poverty, as Geertz suggested, sharecropping in some areas appears to be a method whereby landowners are cultivating rice on a more commercial basis, with the help of a smaller, exclusive body of

1 /M. Kikuchi et al. (1980).

2 /Ibid.

3/ Frans Husken (1979).

workers. The security of employment is attractive to those who are accepted as sharecroppers. Husken reports that in his study village, "compared with agricultural laborers, sharecroppers rarely have important additional sources of income." Their tied relationship with particular landlords frees them - even with a reduced share of output from the necessity of putting together a basket of income from a variety of marginal activities outside the rice sector. Husken also confirms the evidence of the field workers given above that returns per hour of labor are much lower in the marginal activities compared to the rice sector.

Conclusions on Employment Growth and the Rural Labor Market

3.42 We concluded earlier that the evidence on the rural labor market pointed to the existence of a pool of labor in marginal activities which was potentially available to the rice sector at the higher returns prevailing in the latter. Thus, high output and employment growth could take place in the rice sector without an upward pressure on wages. The evidence on rationalization of labor in rice given in the last section tends to suggest that the growth rate of employment (in man-days or man-hours) need not have been as great as might have been expected from the difference between the growth of output in agriculture and the growth of the labor force dependent on that sector. Surplus labor was, in other words, shed from the rice sector, as landowners were induced toward a position of profit maximization.

3.43 In the absence of data on man-hours of labor devoted to rice production - or its rate of growth - it is not possible to assess the relative importance of these two factors in preventing upward pressure on wages in the face of significant output growth. But this question is important for the evaluation of employment aspects of Indonesian economic growth. Rationalization of labor, as described, tends to create a marked dualistic structure in the rural labor market, in which participation in the high wage rice sector is restricted to a limited number of workers, employed reasonably full time, while the majority of job seekers is forced even more than before to meet their subsistence needs from the low-paid nonrice activities. Clearly, the emergence of such a "protected" sector of employment within the rural labor market, hinted at by the field studies, needs much more thorough investigation. An essential step towards fuller understanding would be the systematic collection of data on hours of work in different activities by the rural labor force, and, in particular, by those who specify agriculture as their major occupation.

The Urban Labor Market

3.44 We turn now to a discussion of the urban labor market, and the determination of wage levels in this sector. It might be useful to present some preliminary thoughts about the factors influencing urban wages in an economy like Java's before reviewing the available empirical data. We shall be mainly concerned with unskilled workers or production workers requiring only a low level of skill (i.e., what can be acquired in on-the-job training of about three months).

3.45 The starting point for the determination of urban wages is the recognition that the minimum urban wage will be approximately equal to the alternative income of rural-urban migrants in agriculture. The supply price of migrants thus defined is, however, ambiguous. We must distinguish between different types of migrants to the urban area - in particular temporary and permanent migrants - who have different supply prices. In the Javanese context temporary migrants consist both of "circular migrants" who return to the rural areas after a spell of urban work, and "commuters" who maintain their rural residence but work in town for at least part of the year. In either case, these temporaries are absent from their rural activity only for a short period (or periods), and migrate to the towns without their families. Their supply price will, be below that of permanent migrants for two reasons:

- (a) the net income loss to the family farm due to the migrant's temporary absence will be small, either because the migrant is away in the slack season, or this loss can be partly offset by other family members for a short period; and
- (b) the cost of supporting a family in town will be substantial for the permanent migrant, particularly as the opportunity for females and children to supplement the family income is less in the urban areas.

3.46 The existence of two basic types of migrants with different levels of supply prices means in effect that the permanent migrants will not be employed by urban employers, unless they are convinced that their higher wage cost is offset by higher productivity. Thus, we will find that firms in the formal sector of the urban labor market, where the relationship between stability and labor productivity is strong, will generally set their wages at a high enough level to attract the permanent migrants. In the informal sector, where the link between stability and productivity is weak, wages will be determined by the lower supply price of temporaries.

3.47 This process, however, does not fully explain the difference in wage levels for unskilled or low-skilled labor between the formal and informal sectors. Once firms develop a stable body of workers, further upward pressures on wages are generated. Labor attached to particular employers creates, in a sense, firm specific labor markets, in which wages may be divorced from the supply price of such labor. The durability and smoothness of employer/employee relationships enters the objective function of employers, at least as much as the desire for cost-minimization. Thus, the rent or surplus, created within the firm through technical progress or on-the-job training, tends to get shared between employers and employees. That is to say, the wage level, is related to the level of average labor productivity in the firm, and is higher if the latter is higher. Clearly this phenomenon is more likely if the share of the wage bill in total costs is small (as it tends to be in capital intensive firms with modern technology); also it will be especially important in foreign-owned or multinational firms in which there is considerable social/political pressure to share profits with the workers.

3.48 In Indonesia the factors discussed in the last two paragraphs cause inter-firm differences in wages in the urban market for labor of low skill.

The impact of minimum wage legislation or trade unions is virtually negligible.

The Importance of Temporary Migration

3.49 In some Asian countries like India, the large role of temporary migrants without their families is revealed in the abnormally low ratio of females to males in the large cities. Urban Java exhibits no such markedly different sex ratio. There is, however, evidence of temporary migration which does not show up in the urban sex ratio partly because of the nature of the census, and partly because of the importance of "commuters" in the temporary migration stream.

3.50 The 1971 census classified 6.4% of the population of Indonesia as migrants. But the figure includes only those who had changed places across provincial boundaries, and who had been away from their place of residence for six months or more. Hugo gives three sets of information of the importance of circular migration: 1/

- (a) A fifth of all intraprovincial migrants recorded in the census were "lifetime return migrants", i.e. persons born in the province of enumeration whose immediately previous residence had been elsewhere. This was a surprisingly large population considering it referred only to migrants crossing provincial boundaries and staying more than six months.
- (b) The census of 1971 records that in West Java the number of males over 10 years old who had worked in agriculture during the last season was 39% greater than those who were employed in the census week. The percentage difference between the "seasonal" and "census" agricultural work force was more than twice as great in the urban areas of West Java and Jakarta. Part of this difference is most likely due to the persistence of migrants who divide their time between rural agricultural and urban nonagricultural activities.
- (c) The most direct evidence on the importance of circular migrants and commuters comes from Hugo's survey of 14 villages in West Java in 1973. Recording only migrants who had moved to seek or engage in work or formal education, Hugo found that no less than two thirds of his sample of migrants were nonpermanent (i.e., not meeting the census criteria of being absent for six months or more). Of the temporary migrants, about 20-25% were "commuters" who returned to their villages nightly but worked daily in towns.

1/ Hugo, Graeme, "Circular Migration", Bulletin of Indonesian Economic Studies, Volume 13 (3), 1977, p. 59.

Difference in Earnings of Temporary and Permanent Migrants

3.51 Hugo also collected data in the occupational distribution of permanent and temporary migrants. His figures are reproduced in Table 3.2. The hypothesis of the concentration of temporaries in irregular wage employment or low grade self employment is borne out by the data. It should be noted that casual employment on daily contracts is a feature of many well-established large formal sector enterprises in urban Indonesia.

Table 3.2: DISTRIBUTION OF PERMANENT AND TEMPORARY MIGRANTS
BY EMPLOYMENT IN FORMAL AND INFORMAL SECTORS
(14 SURVEY VILLAGES, 1973)

Income Earning Activity	Temporary migrants %	Permanent migrants %
<u>Formal Income Opportunities</u>		
Public sector, wages	6	22
Private sector wages (permanent)	13	42
Private sector wages (day labor)	15	1
<u>Informal Income Opportunities</u>		
Primary and secondary activities	3	1
Tertiary enterprises with large capital inputs	1	2
Small-scale distribution	41	28
Transport	16	1
Other services	5	3
<u>Total</u>	<u>100</u>	<u>100</u>

Source: Hugo (1977).

3.52 Hugo's wage data showed that at the time of the survey (1973) that the mean weekly earnings of a private sector day laborer were Rp 1,700, as contrasted with mean earnings of Rp 2,400 for permanent wage laborers, Rp 3,800 for Pegawai Negari in the Public Sector and Rp 3,000 for an airline worker, thus, confirming the hypothesis of temporary migrants working for lower wages in irregular jobs, compared to higher earnings in more permanent work.

The Wage Ladder in Indonesian Manufacturing Enterprises

3.53 The propositions advanced earlier in this section would tend to support the hypothesis that there will be a hierarchy of enterprises paying various wage levels for similar workers, the highest being multinational firms; somewhat lower would be domestic large firms, and lowest would be small

firms. This wage ladder would probably exist for service sector firms as well as manufacturing enterprises. The available evidence in Indonesia, however, relates only to the manufacturing industry.

(a) The Census of Manufacturing, 1974

3.54 The major official source of data for the manufacturing sector of Indonesia is the Industrial Census of 1974/75, published by the BPS in 1978. The census covered cottage (and household) industries (CIs); small-scale industries employing less than 20 persons (SIs); medium industries employing between 20 and 99 persons (MIs); and large industries (LI). The CIs employed 80% of the total persons although 95% of their workers were unpaid family workers. The productivity of labor in CIs was very low, so that they accounted for only 14% of total value added. At the other end of the scale, LIs employing 9% of the workers accounted for 62% of value added. ^{1/}

3.55 Our interest in the results of the census is in the earnings differential per paid employee. Of the 1.1 million paid employees recorded by the census, 16% were in CIs, 24% in SIs, 18% in MIs, and the remaining 42% in LIs. ^{2/} The average wage/salary per day per person employed was as follows (in Rupiah): ^{3/}

<u>CI</u>	<u>SI</u>	<u>MI</u>	<u>LI</u>
255	285	390	650

3.56 The differentials by size of establishment reached in these figures are, of course, not corrected for the composition of the labor force. In particular they are exaggerated due to the inclusion of salaried employees, who are much more important in large firms.

1/ World Bank, Report No. 2490-IND, November 79, Volume I pp. 9-12.

2/ Hugo, Graeme, "Circular Migration," Bulletin of Indonesian Economic Studies, Volume 13 (3), 1977, p. 59.

3/ Ibid., p. 12.

(b) Manning's Study of Indonesian Manufacturing Wages

3.57 The second source of wage data comes from a dissertation by Professor Manning of Gaja Mada University in Yogyakarta. ^{1/} Manning surveyed a sample of firms in three industries: weaving, kretek and cigarettes during the period December 1975 to August 1976. Altogether 95 firms were successfully covered with a stratified random sampling to include four criteria: location, size of firm, degree of mechanization and ownership. Several of the major producing areas in each industry were represented. This is the only systematic study of this type available for Indonesia. In spite of one glaring deficiency - that the wage rates are averaged for selected occupational groups in the firms, and not for each individual worker - several important insights into the wage structure of Indonesia manufacturing can be obtained from this work.

3.58 The overall picture of inter-firm wage differentials can be obtained from Table 3.3, in which the data on hourly wages are presented for the firms, categorized by one characteristic at a time. The wage data are for "machine operators" representing the major semi-skilled occupation in each industry: loom operators in weaving; cigarette rollers in kretek; and machine tenders in the cigarette industry.

3.59 It is evident that foreign firms will have higher K/L ratio and also will be larger in size. Does ownership play an independent role in causing higher wages apart from the capital intensity factor? The data in Table 3.4 show that it does - and the magnitude of the effect is very large.

3.60 Table 3.4 also contains data for unskilled workers and white collar employees (clerks). A significant point is that there continued to be a hierarchy of wages for both these labor categories in the three types of firms surveyed: domestic firms with low K/L ratio, domestic firms with high K/L ratio, and foreign firms. (The figure for clerks in non-mechanized domestic firms is probably biased by the small number of observations in the cell.)

3.61 Manning employed multiple regression analysis to determine the parameters of hourly earnings using the characteristics of the firms in his sample. Some of the independent variables were undoubtedly correlated.

^{1/} Manning, Christopher G., Wage Differentials and Labour Market Segmentation in Indonesian Manufacturing, Ph.D. Thesis, Australian National University, October 1979.

Table 3.3: MEAN HOURLY WAGES BY SEVERAL FIRM CHARACTERISTICS
(all firms and weaving, operator 1)

Firm Characteristics	All Firms		Weaving	
	Rp (1)	No. firms (2)	Rp (3)	No. firms (4)
<u>1. Capital Intensity</u>				
Non-Mechanized	30	32	33	12
Mechanized:				
low K/L (< Rp 1.5 m.)	55	29	55	26
high K/L (> Rp 1.5 m.)	107	21	88	15
<u>2. Ownership</u>				
Domestic: pribumi	45	26	49	22
non-pribumi	42	39	50	21
state/coop.	82	4	82	4
Foreign	130	13	103	7
<u>3. Number of Employees</u>				
100	39	24	43	19
100 - 499	56	31	54	20
500 +	80	27	87	15
<u>4. Industry</u>				
Kretek	29	20	-	-
Weaving	59	54	-	-
Cigarettes	133	8	-	-
<u>5. Location</u>				
Jakarta	89	14	85	12
Bandung	65	13	65	13
Other	50	55	46	29
<u>6. Years of operation</u>				
5 or less	75	28	80	18
5 - 20	47	27		21
More than 20	55	27	41	15
	<u>59</u>	<u>82</u>	<u>59</u>	<u>54</u>

Source: Java Wages Survey, 1975-76, Manning, op. cit. pp. 240 and 242.

Table 3.4: HOURLY EARNINGS OF OPERATIVES (MEAN)
(Rupiah)

	Domestic			Foreign
	Non-mechanized	Low K/L	High K/L	
Weaving firms	33	57	78	103
All firms	30	52	74	130
Unskilled	38	37	63	95
Clerks	154	97	131	171

Source: Manning, op. cit., p. 242.

The correlation coefficient for example between the dummy variables for high K/L and foreign ownership was 0.59 for the sample. In spite of this, it was precisely these two variables which were both significant and had reasonably high coefficients.

3.62 Size of firm (as measured by number of workers employed) was significant for the log-linear form of the equation, but not the linear. Thus, Manning concluded that it was the degree of mechanization, and not firm size per se which was important in explaining wage differences. An important conclusion was that several variables which might have been expected to cause wage differentials were not significant: rural-urban location; industry; years of operation; and pribumi or non-pribumi ownership.

3.63 How much of the very large wage differential between firms of different capital intensities, as well as between foreign and domestic firms, is explained by different "qualities" of labor attracted to these enterprises? It should be stressed that the above analysis relates to fairly homogeneous skill groups. Thus, certain personal characteristics of the workers - for example, sex ratio, education, seniority, etc. may possibly contribute to wage differentials. We have already mentioned that the earnings variable in Manning's regression model was the average earnings of the group in the firm in question. The personal characteristics were also measured by the mean value for the group. When these were included along with the firm characteristics in a multiple regression analysis, sex ratio and seniority (but not, surprisingly, education) were significant. But controlling those variables in the case of foreign ownership continued to exert a strong "net" effect on earnings: the coefficient of the variable was reduced from 0.27 to just 0.20.

3.64 Does stability of the labor force explain the difference in "net" earnings between more and less capital intensive firms, or between domestic and foreign firms? It is, of course, not possible to pinpoint the direction

of the casual relationship between stability and wage levels, but is there an association between the two? Manning's data for his sample of weaving firms is as follows:^{1/}

Type of enterprise	Mean rate of turnover <u>/a</u>	Rate of absenteeism <u>/b</u>
<u>Domestic</u>		
Nonmechanized	42.6	13.3
Low K/L	22.0	7.0
High K/L	24.3	7.1
<u>Foreign</u>	18.3	3.5
<u>All</u>	26.8	8.0

/a The turnover rate is the ratio of the total number of separations (quits plus dismissals) per annum to the average number of workers employed during 1975.

/b Absenteeism is the ratio of mandays lost (excluding annual leave) to the product of the number of employees and the number of days worked in the months before the survey.

Source: Manning (1979).

3.65 The general relationship between stability and wage levels holds, but the magnitude of the difference does not seem to be as much as might be expected from the observed wage differentials. There is a substantial difference in the stability of the labor force between nonmechanized and mechanized firms; and it is more than likely that the low supply price of temporary migrants mentioned earlier holds down the wage level in the nonmechanized firms. But, it would appear from the quantitative data that the substantial wage difference between high and low capital intensity firms, on the one hand, and between the foreign-owned and domestic firms on the other are due to factors other than the stability of the labor force. The considerations mentioned at the beginning of this section are probably significant.

^{1/} Manning, op. cit., p. 351

(c) The Mission's Field Data

3.66 The employment mission undertook visits to a number of industrial units in Jakarta, Surabaya and Yogyakarta to get a first hand impression about hiring processes and wage levels. A conscious attempt was made to sample firms of different sizes and ownership classes.

3.67 The mission found that the minimum wage for a typical time rated worker (who would generally be unskilled) in the small-scale manufacturing sector at the time of the mission (March 1980) would be around Rs 500 per day in the Jakarta area and Rs 400 per day in Yogyakarta. Sometimes this wage would be supplemented by a meal (costing say about Rs 50). These rates were sufficient to attract an adequate supply of unskilled labor on a regular basis, as evidenced by the fact that a State-run industrial estate near Jakarta operated a three month probationary system for new recruits. Workers came both from the immediate vicinity and from the areas outlying Jakarta. On the other hand, the unskilled wage in these units was rather lower than that of unskilled construction workers requiring heavy labor. In Jakarta the BPS reports a daily wage level of Rs 650 for construction workers in the last quarter of 1979, but wages for construction workers do vary by firm size. One large firm quoted the rate in Jakarta at Rs 1,250.

3.68 The small-scale manufacturing sector makes use of a lot of labor with some skills which can be acquired in a short time, but which are nevertheless job specific. Many of those semi-skilled workers are paid a piece rate, and there is clearly an advantage for both parties to improve their productivity through continued attachment to the firm. There is a facet of wage differentials which is related to the acquisition of skills. The high return is, however, not clearly a return to "investment in on-the-job training" as some extreme views suggest. The relevant point is that there are many more potential semi-skilled workers, able to perform the job, than those who in fact get selected, and the return to their firm specific skill has an element of rent - which is their share of the surplus created in the firm. The mission found that semi-skilled workers in small and medium-size industrial firms in the Jakarta area could earn Rp 700-800 per day.

3.69 The larger multinational and joint venture firms occupy a distinctive part of the labor market. Wage rates are clearly set out with distinct scales for different grades of skill. Typically, the scales contain a basic wage, provision for family allowances, and annual increments. A peculiar feature of all the firms visited was that men and women had the same scales of pay for the same grades. Wages varied from firm to firm within this sector, but even the lowest wage which the mission found in this group was well above the wages in native firms elsewhere in Jakarta (a finding fully in agreement with Manning's conclusions already reported). A few examples will suffice.

3.70 Firm A - was a joint venture between an international British firm, a Chinese Indonesian firm which has already existed, and the Commonwealth Development Corporation. It employed about 300 workers with a 2:1 ratio of males and females. Most workers were grade 2 "production workers", having had

3 months of training. The daily earnings of a married person with two children with about 1 year's service was Rp 1,200 with allowances, plus Rp 170 for working an evening shift.

3.71 Firm B - was a joint venture firm with a parent Dutch company. The minimum monthly wage was Rp 31,500 with a maximum of Rp 58,000 after 30 years service. Training did not take more than 1 month. There was a 40-hour week, and allowances of various kinds could be as much as 40% of basic wages.

3.72 Firm C - was an American multinational established only 5 years, geared to assembly-line production in Southeast Asia for turning out sophisticated electronic products for markets in industrialized countries. It employed 6,000 young girls who required minimal training. The daily wage was quoted as Rp 1,500 (including the value of free meal and transportation), with a maximum potential of Rp 1,800 with merit increase.

3.73 Firm D - was a well-established American firm producing a major commodity for the domestic market. It employed 1,700 workers and the wage for an unskilled worker was quoted as Rp 50,000 per month, with another 40-50% in fringe benefits.

3.74 Why do these firms pay such high wages? Management is quite aware of the potentially "unlimited" supply of labor from the surrounding countryside willing to work at the (lower) prevailing wage. Recruitment is usually done by intermediaries who have direct contact with the workers. Generally, there seems to be a 3-month probationary period for all workers recruited, and turnover is high during this period. By contrast once "confirmed" the rate of turnover is very low.

3.75 Such a large difference between the wage offered and the supply price of potential recruits, should produce a massive surplus of applicants over available jobs, and is consistent only with a rigorous screening procedure, in which perhaps only one in a hundred is found suitable for employment. However, the low level of skill required of a typical worker in most of these firms scarcely deserves this type of preselection.

3.76 Sometimes objective criteria are established which narrow the population of applicants. For example, Firm D, which had the highest wage level, among the firms surveyed by the mission, now requires its new recruits to be high school graduates. But, it is clear that this condition has been established ex post, after the wage scales had been established at a high level.

3.77 The number of new recruits to regular jobs in these high wage enterprises is not very large since turnover of permanent workers is very low - not more than 5% p.a. Also, increases in output are largely met by increased labor productivity. Firm A quoted its elasticity of employment with respect to output at 0.5 over the last five years. Firm D has had a static work force for several years, with incremental labor productivity coming partly through increased mechanization.

3.78 One incentive for management to restrain the size of the permanent work force is the increasing number of firm-specific workers' organizations that are being established with Government support, although the trade union movement as a whole is still weak. The scales of pay and the associated conditions of work are subject to the scrutiny of the Government Labor Department. In Firm A the labor intermediary has the specific talent, contacts and responsibility to mediate between management and the Labor Department. But, in some other firms this role is gradually being filled by an enterprise union, concerned with protecting job security for the regular employees. The growing difficulty of dismissing permanent workers is likely to slow down the growth of the established work force in these firms. Increased demand for labor has been, and is likely in the future to be, met partly through increased productivity (with or without mechanization), and partly through larger use of probationary or casual workers.

3.79 We should emphasize that the institutional influences just mentioned are a consequence, and not the cause, of the existence of an elite high wage labor force. Foreign capital, operating with new technology in a less developed region, creates its own kind of labor - a labor aristocracy set apart from the income (and cultural) level of the general labor force in the area. This same tendency to establish a firm-specific high wage level exists in modern large-scale firms of domestic origin. But foreign capital and ownership seem to add an extra dimension. The process of formation of this class of elite workers cannot be described in detail within the confines of this report, and certainly cannot be handled by the standard tools of traditional economists. But this mission will have made a contribution, if it can focus, wide-spread attention on this special segment of the labor market which has become a major feature during the recent period of growth. The magnitude of the differential in wages between this sector and the rest of the economy is very large - a multiple of perhaps 2 or 3.

3.80 One feature of this type of firm specific labor which represents a change from traditional Indonesian practice is that there is an implicit contract with management (quite apart from the secondary effect of institutional factors) which protects the employee and his wage level. A relationship between the employer and his employees particularly in the mind of the employer is an integral part of the development of a firm-specific labor force. For example the mission confirmed that wages in the large-scale sector had increased substantially following devaluation.^{1/} In all the large firms visited, wages were increased between 40% and 55%, generally in three phases, between January 1979 and early 1980. In some cases, the wage increase seemed even to anticipate the cost of living increase following devaluation.

3.81 Finally, we should mention that, in spite of the relatively high wage observed in the modern sector firms, labor costs were often only about

^{1/} This was previously reported by a Bank Economic Report, World Bank (1980), 3.06, p.11.

10% of total costs. (This would be somewhat higher if the total salary bill were included.) This is probably one reason that management follows a high wage policy. Also Firm C, which has several plants in Southeast Asia, reported that the share of wages in total production costs in Indonesia is the lowest in the region. According to their records in Singapore the wage share was 3-1/2 times, higher, in Korea 6 times, and the Philippines about one third more than in Indonesia.

Conclusions on the Working of Labor Markets

(i) The Wage Ladder

3.82 The views on Indonesia labor markets presented in this chapter differ in some respects from conventional models of "perfect" labor markets. In the latter, market clearing wages in different parts of the market minimize wage differentials for labor of equivalent quality. Generally, labor market imperfections will not be significant if there is true mobility of labor and institutional influences, such as minimum wage legislation or trade unions, are not significant. Certainly, in Indonesia such institutional rigidities are slight, and there is evidence of a highly mobile labor force - often dividing its time between rural and urban areas to eke out a livelihood. But, in spite of conditions favoring a perfect labor market, returns to low skilled labor differ widely for different activities in both the rural and urban labor markets. The reasons for such different wage ladders are only now beginning to be investigated. Wage labor for rice cultivation occupies the top of the hierarchy in the rural sector, and it appears that workers from households of better economic classes have preferential access to this market. In the urban areas, the upper rungs of the wage ladder are occupied by large modern firms, especially joint ventures or multinationals. One difference between the urban and rural markets, stemming from variations in the incidence of multiple occupations, is that only a small proportion of the urban labor force has access to the high wage markets, while, in the rural areas, all workers can participate. But for the latter, the proportion of income earning activity devoted to these markets probably averages less than half, although within a fairly wide range depending on economic class. Outside the high wage sectors, in both rural and urban areas, large amounts of labor participate in the "informal" sectors, in a variety of activities, usually at fairly low wages.

3.83 It is thus easy to see that one of the traditional tests of labor market imperfection in LDCs - the extent of the rural-urban wage gap is of limited significance. With unskilled or semi-skilled labor facing a wage ladder in each sector, the comparison depends on the particular segments of the market being examined. A summary statistical picture of the Indonesian wage ladder is given in Table 3.5. It has been mentioned that circular migrants or commuters - commonly found in Indonesia - could be expected to keep the return to labor in the "informal" sectors of the urban and the rural areas fairly close together. But accurate data on incomes in these activities are particularly hard to get.

Table 3.5: THE INDONESIAN WAGE LADDER, 1976

<u>Agriculture Labor</u>	<u>Daily Earnings Rp.</u>
1. Hart (Men, average for all seasons, Central Java).	210
2. Makali and White, West Java, average both sexes.	275
3. Padat Karya, both sexes, West Java.	200
4. White, Jogjakarta, Hoeing, Weeding Harvesting	96-116 169-211
<u>Plantation</u>	
Average Earnings, Permanent Workers, All Java	302
West Java	360
<u>Construction, Urban Centers</u>	
BPS, Unskilled workers:	
Jakarta	409
West Java	408
Central Java	293
BIS, Unskilled workers:	
Jakarta	500
Jogjakarta	250
<u>Manufacturing, Unskilled Workers</u>	
Non-mechanized firms	304
Domestic firms with low capital labor ratio	296
Domestic firms with high capital labor ratio	504
Foreign firms	760

Sources: Agriculture: Gillian Hart (1976). Appendix Tables
Padat Karya: Original data obtained from the files.
 White and Makali (1979). Appendix Tables.
 White (1976). 1973 data corrected to 1976 prices
 by Gordon Hughes (1980), p.20.

Plantation: BPS Wages on Estates, 1976, 1977.
 (Average earnings of all permanent plantation workers
 in all crops taken together). The data for West Java
 are 1977 average earnings corrected to 1976 prices by
 using the Rural Price Index for 12 food articles. The
 reported earnings for 1976 seem to be abnormally low
 for West Java.

Construction: Data collected by the BPS (Statistics
 Department). Data collected by the Building Information
 Center of the Provincial Government.

Manufacturing: Data collected from a sample of firms by
 Manning (1976). Manning data on hourly earnings have
 been converted to daily earnings assuming an 8-hour day.

(ii) Surplus Labor and the Elastic Supply of Labor

3.84 The view of the labor markets presented here has two important implications. These are (a) the definition and concept of "underemployment" or surplus labor; and (b) the macro-economic implications for economic growth and labor supply.

(a) The Meaning of Surplus Labor

3.85 In the market clearing model of the labor market, there can be no involuntary unemployment. It is possible, however, to have less than "normal" hours of employment, in equilibrium, if we attach the concept of the casual labor market to that of market clearing wage. In peasant agriculture, labor is hired on daily contracts. If the market functions perfectly for casual labor, labor demand will be distributed randomly among the job seekers, so that, over a period of time, every worker shares (more or less) equally in the total man-hours of work. The average number of hours secured by an individual job seeker would, with this mechanism, easily be less than what might reasonably be considered normal full employment, thus leading to a situation of underemployment for all workers.

3.86 We suggest the following modifications to this market clearing model of the rural labor market: (a) there are differentiated wages within the labor market, with wages in the organized market being higher than elsewhere, and consequently the supply of labor desiring to work in the sector exceeds demand; and (b) rationing of jobs in the rural rice labor market is partly determined by economic class, and workers from all classes participate in different segments of the informal rural market at lower returns to labor.

3.87 Underemployment does not take the form of strikingly short hours of work in economic activity. On the contrary, workers from poor households put in very long hours, much longer than workers from more prosperous households. "Surplus" labor can still be said to exist in the limited and particular sense that, with the returns to labor being low in marginal activities in rural areas, there exists a potential supply of labor hours to the rice labor market which is perfectly elastic at the going rate.

3.88 Adding to this picture both the urban wage structure, and the differentiation of urban labor markets, the result is a perfectly elastic supply of labor to the high wage modern sector.

(b) Elastic Supply of Labor

3.89 The macro economic implications of this labor market model are obvious. It permits the economy to achieve a high rate of growth (and employment) with little impact on real wages in the organized sectors.

3.90 The perfectly elastic supply of labor rests on maintaining the organized sector above the level of labor earnings in marginal activities where wages are presumably determined competitively. While this report cannot answer fully what determines wages in the organized sector, we can point to

the wage ladder as an empirical fact, and suggest the need for systematic research in this area. On the basis of what has been said, a few points do stand out. First, the wage in the organized sector is determined neither by the average productivity of labor on family farms, nor by a notion of subsistence. If the former were true, wages would have increased pari passu along with the rapid growth in labor productivity in agriculture during the last decade. On the other hand, the notion of a subsistence norm does not conform with the existence of a wide variety of wage rates observed, even in the same occupation, (e.g. hoeing), in different village labor markets. Secondly, the organized sector wage, even in the same occupation or industry, should be viewed, not as a single level, but as a band of wage rates. The constancy of the wage over time thus refers to the evidence that the band has remained relatively stable; but wage rates are free to, and do, fluctuate within the band while maintaining their same relative position. Thirdly, the concept of the band of wage rates implies that supply and demand forces do affect wage rates but within the limits of the bands which are institutionally determined. Thus, observed intervillage or seasonal variations in wage rates are partly the result of "market" forces operating within the band. Fourthly, while we have little research on the nature of these "institutional" forces it does appear that the hierarchy of wage rates (i.e. the wage ladder) do correspond quite closely to the hierarchy of labor productivity levels in different activities within the organized sector. Thus, we suggest that the starting point for investigating the determination of wages in the organized sector might be the classical idea of a "just wage" related to some perception of normal productivity in the occupation in question.

Extent of the "Organized Sector" in the Indonesian Labor Market

3.91 One final question remains. What proportion of the total Indonesian (or Javanese) labor market is represented by the "organized" sector in which earnings are significantly above those in alternative sectors where wages are determined more competitively by supply and demand? The "marginal" activities within agriculture, and the "informal" sector outside agriculture (i.e. small-scale manufacturing and services) would constitute the competitive part of the labor market.

3.92 Numerically, the most important part of the organized sector covered by our wage data is agricultural labor. Landless workers as well as small farmers participate in the market for wage labor, but the data on employment does not disaggregate the time devoted to wage labor by different classes of agriculturists. According to the SAKERNAS figures for 1977, 25.7% of the total labor force had agricultural wage employment as their main occupation. Obviously, a proportion of "own account workers" in agriculture would also be spending some of their time in wage labor, and similarly not all of the time of those reporting agricultural wage labor as their main occupation would be used in this sector. If these two points balance each other out, it seems plausible that the proportion of total labor time used in agricultural wage labor in Indonesia is 25%.

3.93 The plantation and construction sectors are not big employers. In 1977, the former employed about 135,000 workers ^{1/} and the number of "employees" in construction was 779,000 ^{2/} out of a total estimated labor force of 48 million. Thus, together they constituted no more than 2% of the labor force.

3.94 The data on the Indonesian wage ladder show that wages in the large-scale manufacturing sector are at a relatively high level, and seemed to have been more or less unchanged in real terms during the 1970s. The factors affecting wage determination in large-scale manufacturing firms would also pertain to large units in the tertiary sector. A crude estimate of the likely proportion of employment in the high wage formal sector could be determined by the fraction of wage earners receiving more than a certain level of income in these activities. If we arbitrarily define the lower bound of the high wage sector in 1977, by a monthly income of Rp 20,000 (or Rp 650 per day) then the SAKERNAS information on the employee earnings by industry suggests that about 20% of the employees in manufacturing and 45% of the employees in social and personnel services earned more than this amount. The percentages of high wage earners in other industries fell between these two limits. Manufacturing and services were, in fact, the two numerically largest industries outside agriculture, accounting for 66% of all nonagricultural wage employment. Thus, as a broad conclusion, the high wage in nonagriculture formal sector in Indonesia probably accounted for 30-40% of wage employment outside agriculture.

1/ BPS: Wages Paid on Estates (1977), Table 1, p. 4.

2/ SAKERNAS (1977), Table 10.9, p. 90.

Models of the Rural Labor Markets

1. It should be apparent from the report thus far that the diagnosis of the employment problem in Indonesia (identified as a situation with a great deal of "surplus" labor in marginal activities) depends crucially on the model of the rural labor market which one accepts. The choice of the most appropriate model will also influence the interpretation of past trends in key macroeconomic variables (particularly constant real wage in agriculture with significant trend growth in output per worker), and also future prospects of employment growth and wages (particularly the approach to the "turning point" identified in Chapter 4). It is important, therefore, to set out the model more formally (and starkly), and also pinpoint the difference between it and the neo-classical model of full employment in the rural labor market.

2. In this Appendix, after recounting the key facts about the rural labor market (given in Chapter 3), the neo-classical model which might "explain" these stylized facts is outlined.^{1/} The predictions of this neo-classical model are then compared with those of the segmented labor market model to see if there are some stylized observations which might help us to discriminate between the applicability of alternative models to the Javanese rural labor market. In the second section of the Appendix the determinants of the wage level in the rice sector and of earnings in marginal activities - as well as the implications of their relative movements over time - are explored.

The Stylized Facts

3. The following are the more important stylized facts which were discussed in the section on rural labor markets in the text.

- (a) The amount of time spent by rural labor in marginal activities (i.e., outside the village rice labor market) is substantial and could be as much as one-half of the total working time of low income households.
- (b) Returns to labor in marginal activities for low income households are typically no higher than one-third of the average returns in the privilege rice labor market

^{1/} This neo-classical model is due to Mr. Trent Bertrand. Memorandum to C. Lluch and D. Mazumdar dated June 3, 1981.

- (c) Seasonal fluctuations in the activities of the rural sector do not take the form of substantial variations in unemployment, but in the proportions of different kinds of market activity, particularly work in the rice sector and in marginal activities.
- (d) Total labor supplied to the market by a household is inversely related to the household income level. Low income households typically contribute more hours by women and children to the labor market, particularly in the slack season.

4. Apart from these basic stylized facts, one other feature might be mentioned because it has been discussed in the text, and it follows as a deduction from the above. It will be recalled that, in the study by Gillian Hart, return to wage labor ^{1/} was significantly associated with the household asset size, particularly in the slack season. Lower income households, who typically supply more labor to the market, have to devote a greater proportion of the supply to marginal activities in the slack season, and thus end up with a significantly lower return.

A Neo-classical Model

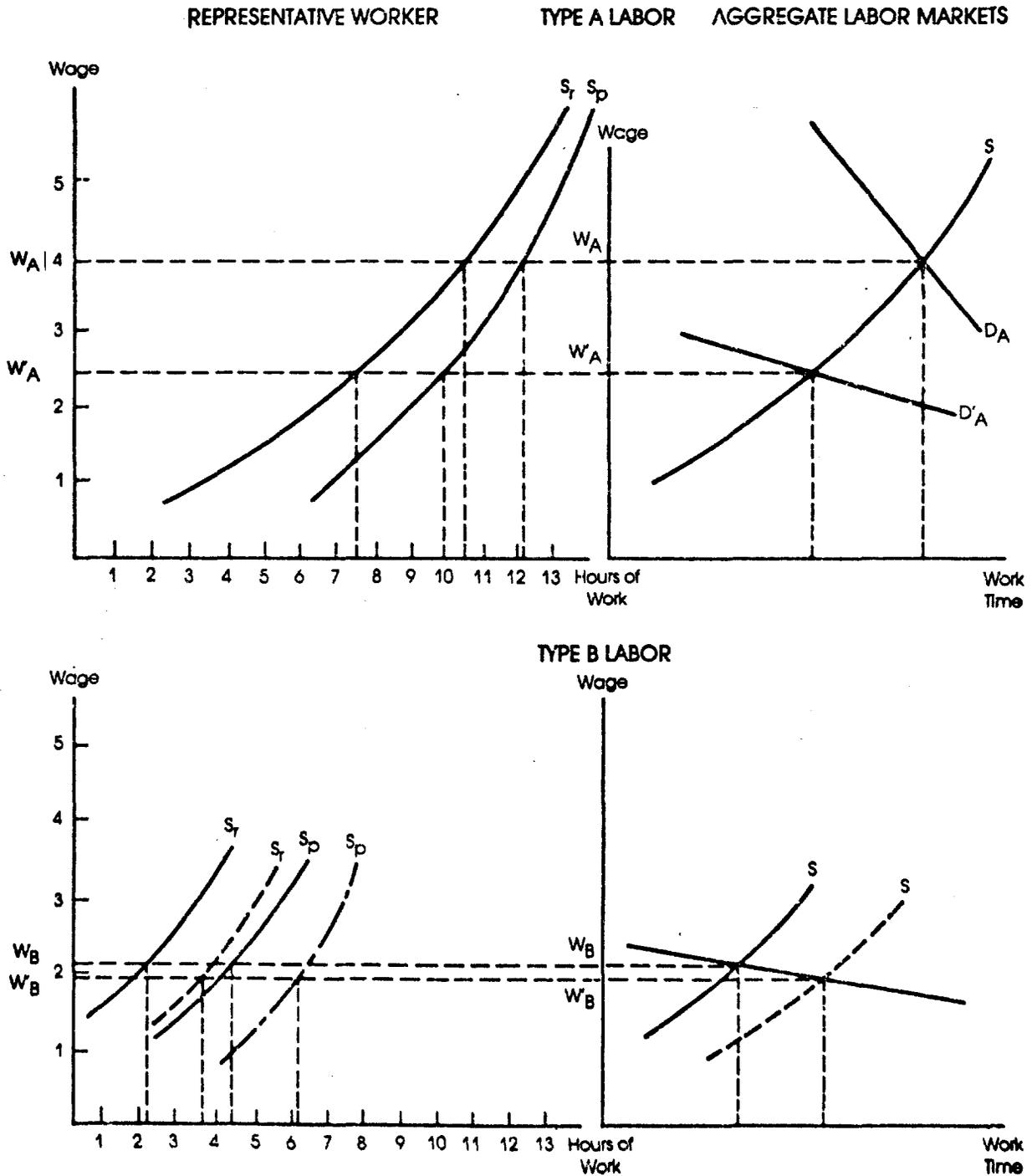
5. A model with equilibrium market clearing wages in both the rice labor market and the marginal activities - but with a positive differential between the two wage levels - can be constructed if we introduce the following premises:

- (a) the relatively high wage rice sector involves harder work than the marginal activities, so that the supply curve of labor to the former is, for all types of labor, at a higher level than the supply curve to the latter; and
- (b) the supply curves of labor for poorer (or landless) households are at a lower level in both activities than those for rich households (or households with some land).

6. The upper panel of Figure 3.1 graphs the equilibrium in the rice labor market (Type A) and the lower panel in marginal activities (Type B) S_r and S_p are the supply curve of labor to the Type A labor market for rich and poor household respectively. There are seasonal variations in the demand for Type A labor, so that we have D_A and D'_A , the demand curves in the two

^{1/} It is important to remember that Hart considers only returns to wage employment. Thus her set of marginal activities leave out the large sector of self employment. In her terms all wage labor markets outside the privileged village labor market is the marginal sector.

Figure 3.1
A Neo-Classical Model of the Rural Labor Markets



seasons confronting the aggregate labor supply curve in rice S. Thus wage rates in Type A labor vary substantially between the seasons, and affect the supply curves of Type B labor in the two seasons. The supply curves for Type B labor, consistent with the peak season wage rate for Type A labor, are shown by the heavy line supply curves, consistent with the slack season wage in the top panels, given by the demand curves in the lower panels.

7. Equilibrium wages are W_A (W'_A) and W_B (W'_B) (slack) seasons in the two types of activities respectively and are the same for labor from either type of household. The difference between Type A and Type B wage in this model reflects the difference in the marginal disutility of labor in the two activities; or alternatively, the transaction costs involved in transforming Type B labor into Type A labor. Type B activity is less arduous, it is said, partly because it involves working "around the house", or at more convenient hours. There are constraints on transforming Type B labor into Type A labor imposed by the amounts of energy already expended on work during the day and given by the limited number of daylight working hours. Clearly these constraints will be more operative in the busy than in the slack season. ^{1/}

8. The other premise of this model - the different levels of the supply curves for rich and poor households - explains the larger labor input over both seasons from poor (or landless) families. It also implies that the poor households allocate a larger proportion of their labor time in the slack season to Type B activities, and hence the average returns to their labor (taking Type A and Type B together) is less than the average wage obtained by the rich households in the slack season. (This confirms Hart's result on the significance of the asset variable).

The Segmented Labor Market Model

9. The segmented labor market model suggested in this report does not dispute the second of the two premises of the neo-classical model. The income effect does result in a lower supply curve of labor for poor households. But the wage difference between the productive and the marginal activities in the segmented model is not due to a difference in the disutility prices of the two types of labor - since this model does not accept premise (a) (See above para. 5) of the neo-classical model. Wages in the rice sector are maintained at a relatively high level due to other factors which will be more fully discussed in section 2. A limited amount of employment is available in the rice sector at this wage, so that jobs are rationed according to some hiring rules. Both poor and rich households supply a substantial amount of labor to the marginal activities where earnings are driven down to low levels, particularly for poor households. (The mechanics of this model are discussed in section 2 so as not to interrupt the flow of the argument.) The immediate task is to see if the two models can be tested in a simple way - first with reference to their

^{1/} This point about seasonal difference in constraints is important and will be referred to again later on.

predictions, and second with respect to the premise of the neo-classical model which the alternative model rejects.

Testing the Alternative Models: (i) Predictions

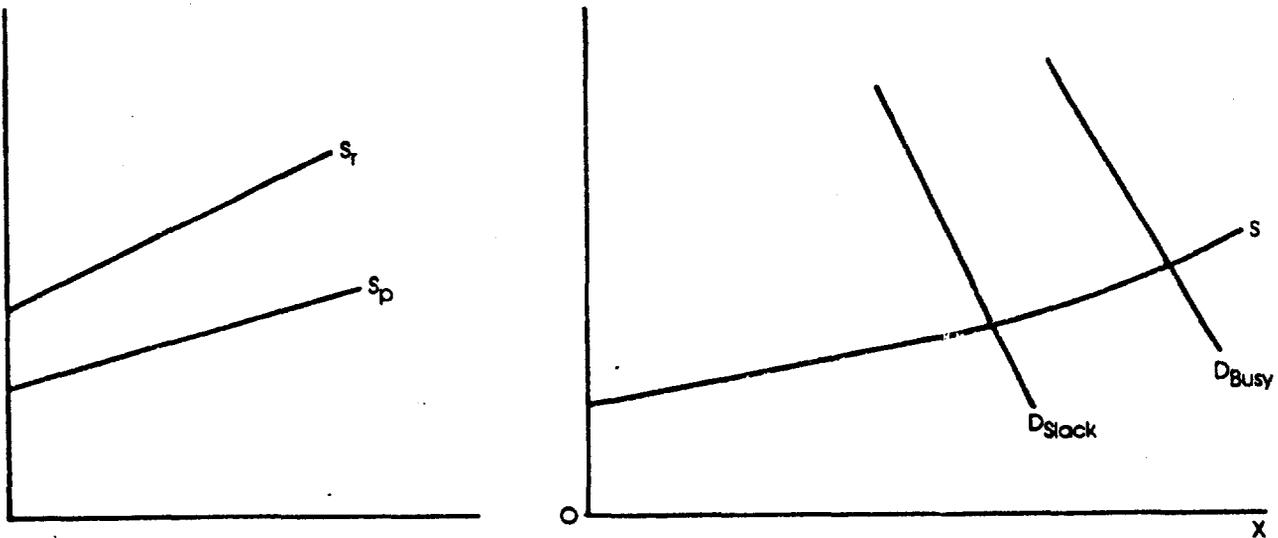
10. The four stylized facts mentioned earlier are consistent with either model. This is, of course, partly because one of the two premises - the income effect on the supply curve of labor from rich and poor households - is common to both models. The difference in wages between the productive (rice) and the marginal sectors is explained by alternative assumptions in the two models.

Prediction (A)

11. There is, however, one prediction about the nature of preferential hiring in the rice sector which is different in the two models and which can be tested against observed facts.

12. The point can be best understood if the supply curves of the Panel A of Figure 1 are redrawn to show that there are minimum reservation prices for both rich and poor households below which no labor supplied. ^{1/} More people will agree that the supply curves should look like those shown in Figure 2 (with the rich having a higher reservation price).

Figure 3.2
The Rice Labor Market With Two Classes of Workers



^{1/} The argument does not depend on this point. Even if the two supply curves start from the same point (e.g. the origin) the result will hold as long as S_R lies above S_P .

The Rice Labor Market with Two Classes of Workers

13. When labor from both types of households is aggregated, the summed supply curve will be affected by the weights attached to the two types of labor. Since there are more poor households, the aggregate supply curve S will be more elastic than Sp. This means that if there is no preferential hiring of workers from the rich households, no rich worker will be hired at all in the rice sector until the demand for labor reaches a point where a representative worker supplies OX number of hours. The message of the neo-classical model, in other words, is that the rich households will typically supply the marginal amount of labor demanded in the busy season, and probably nothing at all in the slack season. The prediction of the segmented labor market model with preferential hiring is exactly the opposite. When labor demand is small in the slack season, apparently the limited number of jobs in the high wage rice sector is retained by richer members of the community.

14. Field workers' evidence tend to support the predictions of the latter model. In her village study of the slack period of the dry season, Hart notes: "Men, women and children from landless households entered into long duration sugarcane and tebasan harvesting contracts (outside the village) in August and September/October respectively. The strategy adopted by small landowning households was quite different. By virtue of their relationships with large landowners, Class II (landed) men and women had preferential access to the more restricted and remunerative types of wage labor within the village". ^{1/}

15. Stoler's study, ^{2/} throws light on the participation of different groups of female workers in harvesting (an intensely seasonal activity), and of the preferential treatment accorded to labor from landed (rich) households. Small farmers, in addition to employing household members, typically invite females from neighboring households to form part of the team of harvesters. "By allowing members of a neighboring household to participate and paying them in kind with a relatively large share, a farmer is insured that female members of his or her household will be given reciprocal employment opportunities. Such arrangements are as much a means of spreading the risks of cultivation as they are a means of meeting labor requirements." ^{3/} Large farmers employ harvesters from outside this network of kin and close neighbors. "As many as 50 to 150 women are used to reap the padi on fields of half a hectare and above. A large proportion are orang bin (literally "other people") from outside the village who seek out these larger farmers where their harvesting chances are greater." ^{4/}

^{1/} Gillian Hart, p. 168.

^{2/} Ann Stoler (1977).

^{3/} Ibid., p. 682.

^{4/} Ibid., p. 683.

16. Stoler also discusses different rates of wages paid to different classes of workers in harveting. According to her study the size of the bawan (the share of the harvested crop paid out) typically depends on the social proximity of the harvester to the host household. "Close relatives receive from one-fourth to one-half of what they harvest ... shares of one-sixth to one-eighth are given to women from neighboring households (tetangga), defined not only by their physical proximity to the host household, but by their mutual participation in gotong-royang activities. Shares of one-tenth to one-twelfth are given to orang-bin, that is distant villagers who fall outside the first two categories. In other villages the bawan for this group may be as little as one-twentieth."

17. Harvest labor from landless families, who operate outside the social network system, thus get a significantly lower harvest wage than landowning families, although they might get more harvesting days per household.^{1/} Wages are not equalized for harvesting labor from different economic groups, as in a perfectly competitive market. On the other hand, if we think in terms of a model of "competitive monopsony" with each farmer facing an upward sloping supply curve of labor to himself, we would expect the larger landowners to pay higher wage since their larger demand requires that they attract labor from landed families with higher marginal supply prices. But the outcome of the social network system is the opposite of this prediction. It is the larger landowners who pay an effectively lower harvest wage, as they employ a larger population of harvest labor from landless families.

18. In sum, in the segmented labor market model, labor supplied by the poor households constitutes the marginal supply of labor to the rice sector, whereas in the competitive model, analyzed in Figure 1, it is the labor supplied by the rich households which is the marginal labor supply. Consequently, the preferential treatment of rich households in the rice labor market is more operative in the slack than in the busy season.

Prediction (B)

19. A second prediction of the neo-classical model as set out in Figure 1 is that the wage rate in the village rice sector should be much nearer to the wage in marginal activities in the slack season than in the busy season. As already mentioned, the transaction costs of transforming Type B labor to Type A labor are substantially smaller in the slack season. In the segmented labor market model, there is no clear prediction about the seasonal behavior of the wage differential, but the probability is that the wage differential will widen in the slack season - the opposite of the prediction of the neo-

^{1/} In Stoler's study 15 landless household had 43.8 harvesting days per household with 2.5 Kg of rice per harvesting day. By contrast 39 households with some land (< 0.2) contributed 25.3 harvesting days per household with a payment of 3.1 Kg per day. (See *ibid.*, p. 685).

classical model. This is because if there is wage maintenance in the rice sector to ensure a minimum efficiency wage cost (see section II below), it is likely to be more operative when earnings in marginal activities are falling.

20. We are unable to test for this difference in predictions because comparable data on hourly wage earnings in the two types of activities, controlling for the demographic and the economic status variables, are not available by season in the material from the village studies which have been analyzed. But such data do exist, and it is recommended that they be analyzed to throw light on this issue, as well as on the issue of appropriate shadow wages.

Testing the Alternative Models: (ii) Premises

21. The neo-classical model makes definite assumptions about the nature of the tasks involved in Type B jobs. The disutility of effort involved in these tasks is substantially less than in Type A jobs, so that the supply curve of labor to the Type B market is lower for all volumes of work supplied and for either income class. The model of Figure 1, therefore, conceives Type B jobs to be self-employment in or near the home, or outside regular "daylight" hours, largely in petty trade or handicrafts.

22. The distinction between the "productive" rice sector and marginal activities in the segmented labor market model does not essentially follow this line. It would appear from the discussion in the last section that the social network system establishes rice production within the village economy as the primary labor market to which some groups have preferential access. Marginal activities thus extend beyond petty trade in the village, or handicrafts in the workers' household. It includes some agricultural work outside the social network system of the village economy, e.g., harvesting for cash wages (the tebasan system). It also includes wage labor in non-rice sectors, e.g. sugarcane, and tobacco, fishpond labor and other non-agricultural work. In the slack season men, women and children from low-income (i.e. landless) families participate in these forms of wage labor outside the village, since the limited amount of work in the rice sector of the village is preferentially given to workers from landed families. Wage rates in these activities outside the village are lower than in the village rice market, and the average returns per hour of labor are further reduced by having to spend two or three hours a day walking to and from work. ^{1/}

23. It would be hard to describe such work in the "marginal" sector, which involves longer hours of toil and search, as involving less disutility of labor, so that it could be represented by a supply curve lower than that in the village rice sector (Type A work of Figure 3.1).

^{1/} Gillian Hart, p. 166.

24. Some work in petty trade and handicrafts on the other hand, does give the impression of slow work, involving longer hours at a low return to labor per unit of time. But to conclude, as the neo-classical model would do, that the participants in these activities are doing so by choice rather than necessity, is to prejudge the question about the existence of involuntary underemployment in Javanese villages. Taken in conjunction with the elastic demand curve for labor in Type B jobs (of Figure 3.1), it does imply the doubtful proposition that poor workers are poor through choice.

Notes on the Segmented Labor Market Model

25. The basic point of the segmented labor market model in Javanese rural areas is the maintenance of higher wages in the village rice labor market than in marginal activities. The text, as well as this Appendix, has suggested that institutional factors were significant in determining the rewards to labor. For example, the share in harvesting, tied to the social network system, has a strong content of customary value. But there is no uniformity of wages across villages for the same agricultural operation even within a limited region.^{1/} While no systematic work has been done in Indonesia on the determinants of inter-village wage variation, one presumes that economic conditions in the village do influence the agricultural wage. One would also like to reconcile the maintenance of the wage in the rice sector at a level higher than marginal earnings with the profit maximizing behavior of small farmers. While a complete theory of rural wages cannot be provided here, it may be interesting to suggest a framework for conceptualizing the determination of wages in the rice sector, and of the existence of wage differentials with respect to marginal activities: (a) the use of a significant amount of fixed capital - farm land - in the rice sector determines a minimum level of labor productivity in this sector which is higher than productivity in marginal activities; and (b) the wage efficiency relationship which holds for individual workers ensures that there is a wage level which determines the minimum wage cost of a unit of labor to the employer and the productive sector, and it will not pay an employer to offer a wage below this level.

26. The determinants of earnings, at least in the large self employment marginal sector are well described in the following passage.^{2/}

27. "When there is persistent unemployment in a stagnant economy the redundant workers may take to employing themselves with tiny quantities of capital (say as shoe-blacks and pedlars) or by selling their services directly to consumers (as domestic servants, porters, odd-jobmen etc.). This kind of occupation is usually described as disguised unemployment. From a formal point of view it may be regarded as an extreme form of demechanization of technique. The possibility of making a living in this way sets a bottom to

^{1/} See White's data on wages in six villages in West Java, p. 47, above.

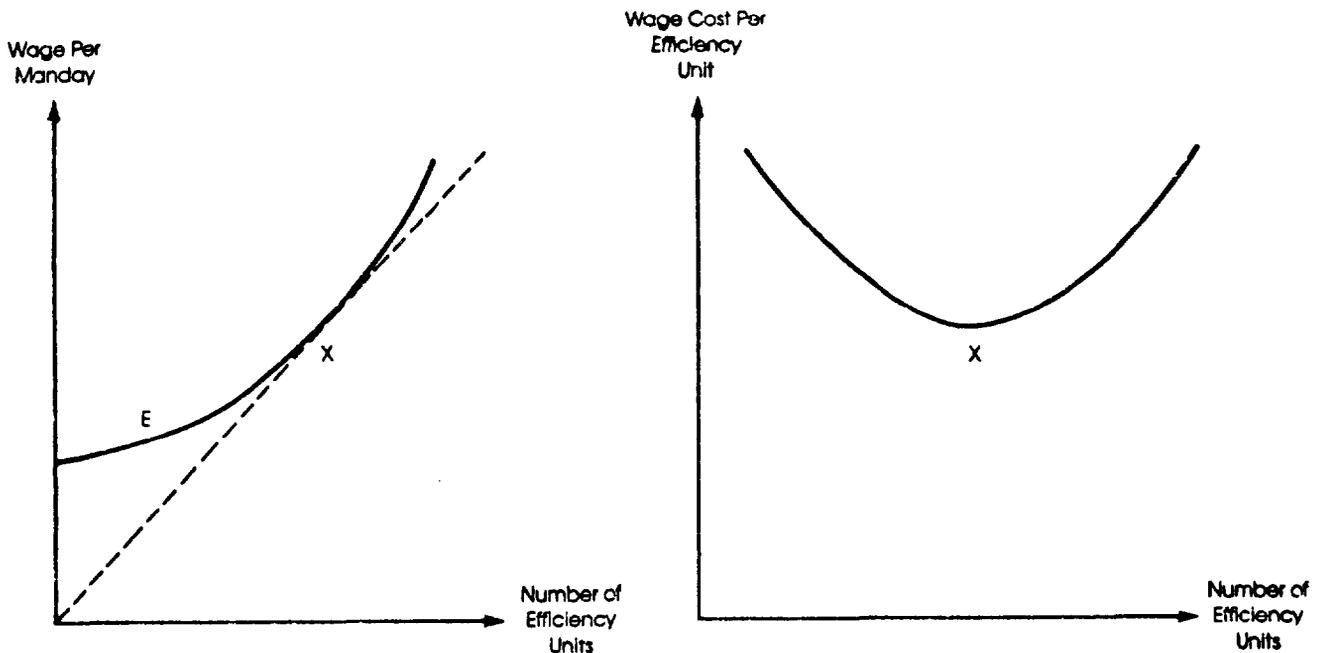
^{2/} Joan Robinson, "The Accumulation of Capital," pp. 157-158.

the fall in real wages and so to the level of technique in regular capitalist industry".

28. The productivity sector in the rural economy is differentiated from the marginal sector by its having a "higher" level of technique because of the availability of substantially more fixed assets (farm land). The productivity of labor is higher, and there is scope for labor to claim a share of this output to attain a higher real wage than in marginal activities. Why do owners of productive land concede to profit sharing and the claims of labor? The answer most likely lies in the incentive effect and the wage efficiency relationship which has been discussed in the literature for a long time. Starting from the low level of real wage in marginal activities, the efficiency of a worker increases more than proportionately as the wage offered increases, up to a point of inflexion after which efficiency increases less than proportionately. Thus, there is a wage level - higher than the real wage in marginal activities at which wage costs per unit of labor (in efficiency units) is minimized from the point of view of employers. No profit maximizing employer will offer a wage lower than this, in the productive sector.

29. The hypothesis is portrayed in Figure 3.3. The left-hand side of the diagram shows the increase in efficiency units supplied by a representative worker corresponding to varying levels of wage per man. To the left of the point of inflexion X, the elasticity of the function is greater than 1 showing a more than proportionate increase in efficiency with increased wages; and to the right of the point X, the elasticity is less than 1.

Figure 3.3
The Wage Efficiency Relationship



Thus, this efficiency wage function yields a U-shaped cost curve, shown in the right hand panel, with wage cost per efficiency unit falling up to X' (corresponding to the wage X), and rising for higher values of wage per man. Let the earnings per man day in marginal activities be E , less than the critical wage X . Then workers will be available to the productive sector in unlimited quantity at the wage X , and no employer will offer a wage below X . The wage X sets a floor at which wage costs per efficiency unit of labor are minimized and profit maximizing employers are able to meet their total demand for labor (in efficiency units) by hiring as many man-days as required at this minimum average wage cost. Thus, in spite of an abundant potential supply of labor in the marginal sector at the wage X , a positive wage differential is maintained in favor of the productive sector. The wage in the latter will not increase until enough labor has been absorbed in the productive sector to cause earnings in the marginal sector to increase to X .

30. This wage efficiency relationship has a superficial similarity with the differentiation between Type A and Type B labor of the model of Figure 1. But there is a crucial difference. In the neo-classical analysis the causation runs from efficiency to wages, whereas in this view the causation runs the other way. At a higher wage (up to the point of inflexion) more or less anyone who is offered a higher paying job performs at proportionately higher efficiency. Thus, at the wage at which wage costs per unit of effort are minimized there is an abundant supply of labor.

31. Note the following points about the wage-efficiency theory:

- (a) Since there is an abundant supply of labor at the floor wage X , employers must (select some workers more favorably than other.) The preferential hiring rules discussed by the field workers strengthen the social network system without adding extra economic cost to the hiring.
- (b) The wage-efficiency relationship should be interpreted in terms of incentive effects rather than in nutritional terms as has sometimes been done in the literature. The nutritional interpretation predicts uniformity of wages across villages (and across seasons) which is contradicted by the evidence. The incentive effect ties the least cost wage to the real wage in marginal activities, and thus allows for the economic conditions of the particular village economy to influence its level.
- (c) The efficiency wage, we would expect, would be tied to a "norm" for the village economy, and would have considerable stability in real terms. It would change when conditions change more than marginally - in the upward (as after the turning point in Japan, and Korea) or downward (Bangladesh?) direction. Field

workers in Java and elsewhere have often commented on the "social" pressures underlying the maintenance of wage levels in the rice sector 1/

32. The idea of an efficiency wage as a "norm" for a particular village is consistent with the existence of the apparent paradox of widely differing real wage for the same operation in the same season in adjacent villages. 2/ The interdependence of the landowners and the workers seeking wage employment in a village ensures that the norm is established within the boundaries of the village. Professor Ashok Rudra writes on the results of a field survey of wage formation in a group of villages in Eastern India. 3/

"It is easy to anticipate the answers we would get if one were to pose the question, as we have done, in a survey as to why a laborer does not go to a neighboring village for higher earning and why a property owner does not employ a laborer from a neighboring village at a lower rate. The answers would be like the following:

"Even if the employers in village give us lower wages, it is they who provide us with whatever employment we get round the year. Can we afford to do without that?"

"If I should forsake the laborers of this village for saving a little money on wage what guarantee is there I should have labor when I need it most? It is these laborers who see us through the entire year."

33. Migrant labor from outside the village society is, in this view, a "foreign body" which is used sparingly to meet particular short periods of heavy labor demand. We have already quoted Ann Stoler's study of harvesting labor in her village when it was found that "outsiders" were typically hired only by large landowners and at a significantly lower share of the harvest than those part of the social network system in the village.

1/ See Maso Kikuchi (et al.) "Class Differentiation, Labor Employment and Income Distribution in a West Java village," The Developing Economies, March 1980. Ashok Rudra: "Local Power and Farm Level Decision Making," mimeo. Viswavarati University, West Bengal.

2/ See, White's wage data, Figure 2.1, p. 47 above.

3/ Ashok Rudra, op. cit., p. 10.

The Transition from a Surplus Labor to a Neo-classical Model

34. The surplus labor model obtained above has two characteristics:
- (a) there is an abundant supply of labor at the "floor" rice wage W which minimizes labor cost per unit of effort. Employment at this wage is preferentially given to workers from certain types of households who are close to the property owning group in the villages;
 - (b) the low-income (or landless) households have to meet their minimum income needs by devoting long hours to marginal activities.

35. While this mechanism drives down the wage in marginal activities, there is no "distortion" in the rice sector. The rice wage is at the equilibrium value consistent with minimizing the wage cost of an efficiency unit of labor.

36. The labor market will move towards the neo-classical model described in Figure 1 as more demand for labor is created in the rice sector. With sufficient labor demand in rice, the traditional upward sloping supply curve of labor will come to exist in both the rice labor market and in marginal activities. The conditions for this to happen are related but different in the two sectors. In the rice sector, the demand for labor has to be high enough to require that the number of efficient units supplied to the floor wage W is insufficient to meet the demand when all available workers have been employed at this wage. In marginal activities, the supply curve of labor will be the normal upward sloping type when an individual worker gets enough employment in rice to meet the minimum subsistence needs of his household.

37. Preferential hiring in the rice sector might slow down the transition to the neo-classical world. Reference might be made here to the "rationalization of labor" in the rice sector described in the text. As we saw, in some areas there has been an increase in labor-tying arrangements with economic development. As labor productivity increased after the green revolution, employers have sought to stabilize the effective wage of labor, not by interfering with the traditional share of hired labor in output, but by asking selected workers to perform other agricultural operations as a price for participating in the harvest. This development in the labor market increases the employment (in man-days) of a select body of workers at the cost of limiting the employment opportunities of other landless workers who are not preselected for such labor typing arrangements. In other words, the increase in demand for labor is not randomly distributed among the job seekers, thus limiting the affect on the pool of "surplus" labor.

Shadow Wages in Java

1. To discuss the principles which determine the opportunity cost of rural labor in Java, we must find an answer to the question: what is the marginal product of a unit of unskilled labor which is withdrawn from agricultural occupations to work on a rural project? Shadow wage calculations will require additional judgements on the social cost of the wage bill of the project and on distribution weights. These topics are considered later in the Appendix.

The Opportunity Cost of Labor

2. The opportunity cost of labor withdrawn from the rural sector is determined by the value (at social prices) of the loss of output caused by this withdrawal. The relevant loss of output, however, cannot be directly observed; its probable magnitude has to be deduced from the theory of the rural labor market which seems most acceptable. We will contrast the conclusions derived from the model of the rural labor market outlined in Chapter 3 with those derived from a purely competitive labor market model.

(i) The Competitive Model

3. In the purely competitive model of the labor market, the loss in output due to the withdrawal of a unit of labor is measured by its marginal product which, in turn, is approximated by the wage rate for agricultural labor. A complication immediately arises in peasant agriculture because of the prevalence of small farmers who work the land themselves without the use of hired labor. But, in economies like Indonesia's, where landless labor, as well as small farmers, participate significantly in the market for wage labor, the conclusion from the competitive model would be that the marginal product of peasants on their own farms should be equated to the wage in the market for hired labor.

4. A second complication is that the loss of agricultural output due to the withdrawal of a unit of labor will be equal to its marginal product only if the elasticity of supply of effort by an individual worker is zero. Otherwise, some of the loss in labor time due to the withdrawal of unit of labor will be made up by extra effort supplied by those remaining in agriculture. The loss in output will, therefore, be less than the marginal product (= the wage) of labor. But this complication will not modify the calculation of shadow wage very much if we value the disutility cost of the extra effort which is being supplied. In equilibrium, the marginal supply price of effort is equated to the wage rate, and hence the value of the extra output produced by the workers remaining in agriculture will be more or less offset by the disutility cost of the extra effort.

5. A third point is that the peak season wage of agricultural labor is so much higher than the slack season wage. The appropriate opportunity cost of labor depends upon the period for which it is withdrawn. If labor is withdrawn for the whole of the year, then the loss in output will equal the marginal product of a unit of labor for the agricultural year as a whole - taking the slack and the busy seasons together - which in turn, will equal the weighted average of the wage rates in the two seasons (the weights being the hours of work secured by a typical worker in the different seasons).

(ii) Modification of the Competitive Model

6. The two points about the functioning of the rural labor market in Java (discussed in detail in Chapter 3 and its Appendix A) which require modification of the competitive model for the purposes of calculating the shadow wage are the following:

- (a) The existence in the rural labor market of activities pursued by laboring households in which the returns for an hour's work are much lower than in the rice labor market. Agricultural workers devote a significant proportion of their time to these "marginal" activities if they do not get enough work in the high wage rice labor market.

Clearly more labor hours are devoted to these activities in the "slack" season, but they continue to provide an opportunity for extra income for some groups even in the "busy" season.

- (b) The importance of household economic status in the allocation of the limited amount of work in the high wage rice market between different socio-economic groups. Workers from higher economic groups are more likely to be employed in the high wage market than workers from landless families.

7. The implication of the last point for the evaluation of the shadow wage can best be understood by contrasting it with the situation which would exist if the rice labor market functioned in a fairly competitive manner. Workers from higher status families have a higher supply price (because of their superior asset position). Consequently, in a fairly competitive market, workers from such households would be employed in the rice market only after the available pool of labor from lower income groups has been exhausted. Thus, the wage in the rice market would in a competitive model, equal the relatively high marginal supply price of higher status workers. But, in a segmented labor market, such as described in Chapter 3, the high wage jobs are preferentially given to job seekers from the higher economic groups. A potential supply of workers with lower supply prices exist in the households of landless workers, but their opportunities for employment in the high wage market are limited.

8. The opportunity cost of labor in such a segmented labor market will not be given by the going wage of rice labor, but by the lower earnings in the "marginal" activities. For, if a unit of labor is withdrawn from the rice labor market, it will be replaced by a unit moving out of marginal

activities. The loss in output in the rural sector as a whole would then be the loss due to the withdrawal of a unit of labor from the marginal activities - which is approximated by the earnings per hour of work in these activities.

The Ratio of the Opportunity Cost of Labor to the Agricultural Wage

9. Let us now turn to the estimation of the ratio of labor earnings in marginal activities to the going agricultural wage. A numerical estimate for this ratio, however rough, is the first step in calculating the shadow wage. At the same time, it is more useful to work with this ratio than to try to estimate the absolute value of the opportunity cost of labor in rural Java. We can then apply this ratio to the most relevant going wage in the region, for the particular year (or years) of the project.

10. Makali and White have provided data on the distribution of hours worked and income derived from different activities for different classes of households in six villages in West Java for the wet season 1975/76 and the dry season 1976. ^{1/} The households were divided by their land holdings into three groups: small (0-0.24 ha); medium (0.25-0.50 ha); and large (more than 0.50 ha). The relevant data for small households are as follows:

Activity	Distribution of household working hours devoted to the activity %	Earnings for hours of work in the activity (Rp per hour)
Farm labor	25.15	49.92
Trader	30.94	17.72
Handicraft	19.59	9.71

Source: White and Makali (1979).

11. Trading and handicraft are the principal "marginal" activities for "small" agriculturists. They are also important activities for higher asset groups - though own cultivation occupies a significant proportion of the working time of the latter in addition to the three activities mentioned above. The "medium" and "large" cultivators have higher returns to labor in all three activities than the "small" cultivators, but their returns in trade and handicrafts increase relatively more than in farm labor. This is because the richer households are able to mobilize more complementary factors (particularly capital) in these activities. They also, on the average, have

^{1/} Benjamin White and Makali, "Wage Labor and Wage Relations in Javanese Agriculture", : unpublished, The Hague, May 1979, Table A6, p. 38.

better access to the more highly paid jobs in agriculture, but their higher returns to labor on this account is of less importance.

12. It appears from the data given above that the returns to labor in "marginal" activities for the "small" households are between one-fifth and one-third of their average returns in farm labor. (Note that the amount of time spent in these "marginal" activities is fully one half of the total working time of these households and double the amount of time spent on farm labor).

13. Some economists might be tempted to calculate the opportunity cost of labor in the agricultural sector by concentrating exclusively on the lower returns secured by low income households in farm labor. From the data provided by White and Makali,^{1/} the marginal returns to farm labor can be calculated for the extra hours devoted to this activity by "small" cultivators as against "medium" cultivators. The marginal returns per hour of farm labor for the former, work out to be Rp 38.11, or rather more than 25% below the average wages secured by "small" cultivators. Estimating the opportunity cost of rural labor exclusively from the returns to farm labor is thus an overestimate.

14. A second field study which could throw light on the opportunity cost of rural labor in Java - and which has in fact, been already used by Gordon Hughes for this purpose - is by Gillian Hart.^{2/} The study also refers to the agricultural year 1975-76 (the same period as the study referred to in the last paragraph), but is for a coastal village in which off-farm wage labor in fish ponds and non-agricultural activities outside the village seems to be more important than trading or handicrafts as non-rice activities. Hart's study provides figures for average returns to wage labor as a whole (including farm and off-farm labor). For the year as a whole, adult men earned a mean hourly wage of Rp 35.7, and adult women Rp 20.0, working an average of 156 hours and 100 hours per month respectively (using these hours as weights) the weighted average hourly wage comes to Rp 30.7 - which is as much as 30% lower than the average hourly returns to farm labor in the Rural Dynamics Study Villages (last paragraph). A part of the difference is due to regional variations in wage levels, but it is clear that the lower wage in Hart's villages is partly due to the inclusion of non-farm wage labor in the calculation along with farm labor.

15. As in the Rural Dynamics villages, returns to labor in Hart's study are given separately for three economic classes and also for peak and slack seasons. The difference in hourly wages for the medium (Class II) and small (Class III) households is considerable, especially in the slack season. The figures are Rp 32.7 and Rp 27.8 respectively in the peak season, and Rp 27.3 and Rp 21.8 in the slack season. It might seem appropriate to use the hourly wages of Class III households as the opportunity cost of rural labor in the two seasons, but in a segmented labor market, the marginal return to labor is

^{1/} White and Makali (1979), op.cit.

^{2/} Gillian Hart, (1978), op.cit.

the relevant concept - and this will be below the average return which is pulled up by the higher wages which some privileged job-seekers manage to get.

16. Gordon Hughes has tried to calculate the marginal return to wage labor separately for the peak and slack seasons in Hart's sample. For the slack season, he uses the average returns to female labor - which is Rp 15 per hour - since "similar work is available to men as well". For the peak season, Hughes calculated the "marginal return for the hours which the adult men in Class III household work in addition to the number worked in Class II households". This was calculated to be Rp 20 per hour and was lower than the marginal returns for a female worker for Class III household (Rp 23.5). Hughes accepted Rp 20 as the marginal return for wage labor for both sexes.

17. According to Hart's data, peak season wage labor accounts for about 40% of the yearly total. Thus, the year round weighted marginal return for wage labor is Rp 17. We do not have the data from Hart's village to know how much below the mean wage in rice labor this figure is. But compared to the returns to farm labor in the Rural Dynamics Village (according to White and Makali discussed earlier), this figure is about one-third of the farm wage. We also saw that this level was the upper limit of the returns to marginal activities in the White/Makali villages.

18. Benjamin White ^{1/} had studied a poorer village in Yogyakarta at an earlier date. He collected information on earnings and hours of work in different activities "for early 1973", presumably the latter half of the wet season. The earnings per hour for male agricultural laborers (in hoeing) were Rp 9-11, and for women workers Rp 6-7 in transplanting, and Rp 16-20 in harvesting. In non-agricultural activities in the preparation of food items for sale, or in handicrafts - the returns per hour of labor were around Rp 3.5, and perhaps somewhat lower for women. These figures give the general picture that earnings per hour in "marginal" activities are one-third or less of what they are in farm labor.

19. The conclusion from these three studies is that it is probable that the marginal opportunity cost of rural labor is about one-third of the going agricultural wage for the year as a whole. The agricultural wage in this connection means an average wage paid for the main operations in paddy cultivation, suitably weighted by the proportion of man-days used in each operation.

The Shadow Wage of Rural Labor

20. The estimation of the opportunity cost of rural labor discussed so far is only one building block in the calculation of the shadow wage. Gordon Hughes has recently provided an extensive discussion of the theory of the shadow wage and has also provided an estimate of the various parameters needed

^{1/} Benjamin White: "Population, Involution and Employment in Rural Java," Development and Change, Vol. 17, 1976, 267-290.

for its estimation in the Javanese context. The theory is by now a fairly standard one, accepted by most economists in this field. The mission did not go into a detailed review of Hughes' estimates of the relevant parameters other than the opportunity cost of labor discussed here. We provide below a summary of Hughes' theory.

(1) The opportunity cost of labor defined as the earnings foregone measured at accounting prices (V_m) defines the traditional shadow wage. Rural labor employed in the project, however, may not be attracted at this price. For reasons given in Appendix A to Chapter 3, the wage in the organized rice sector is established at a level to minimize the cost of efficiency unit. It is likely that this floor wage will influence the views of both labor and the project authorities about the appropriate wage to offer to workers used in the public sector project. But to keep the argument perfectly general let W_p be the wage at which labor is typically attracted to the project at a level of efficiency appropriate to the organized sector of the rural market. Workers from rural households employed in these projects, therefore, experience a gain in income equal to $(W_p - M)$, where W_p is the project wage and M is the output foregone of the worker.

(2) This increase in consumption is valued at the accounting ratio based on the average rural expenditure pattern. Call this ratio V_{er} . Then the social value of the increase in consumption is $(W_p - M) V_{er}$.

(3) But there is a social cost aspect to the increase in consumption. First, there is the loss in potential investment funds available to the economy. Secondly, depending on the relative economic position of the rural households which experience an increase in consumption, the distribution weight attached to the additional consumption might be less than unity. Both effects are taken into account by noting the income class of the households supplying the workers relative to the "critical income level" at which the government attaches zero social cost to increments in consumption. Let the income weight attached to the increase in consumption of households supplying labor be W_r . Then combining (1), (2) and (3):

$$SWR \quad V_m M + (V_{er} - W_r) (W_p - M) \quad \frac{1}{}$$

1/ It might help some readers to define the key parameters in the shadow wage equation:

V_m : this accounting ratio is measured by the ratio of the shadow price of the basket of commodities produced by agricultural labor to its market price.

V_{er} : measures the ratio of the shadow price of the basket of commodities consumed by the average rural workers to its market price.

V_r : is the weight attached by society to the extra consumption occurring to the rural household due to the additional person working on the public project. It really reflects the society's (or government's) evaluation of the income level of the household which benefits relative to the critical rural income level at which the weight is unity

The expression for the shadow wage as a proportion of the rice wage (W) is then:

$$\frac{SWR}{W} = V_m \frac{M}{W} + (V_{er} - W_r) \frac{(W_p - M)}{W}$$

We have discussed above the value of $\frac{M}{W}$. It will be about 0.3.

Hughes' values for the other parameters are

$$V_m = 1.14, V_{er} = 1.01, W_r = 1.09$$

Hence

$$\frac{SWR}{W} = .34 - .08 \frac{(W_p - M)}{W}$$

21. It is seen that the value of the second term is small, because of the value of $(V_{er} - W_r)$. Thus whatever the wage which the public sector project pays to unskilled rural labor, the shadow wage as a proportion of the rice wage is fairly well calculated by $\frac{M}{W}$.

22. It might be relevant here to draw attention to Hughes' comment on his derived income weight: "The income weight exceeds the accounting ratio for rural expenditure, so that the shadow wage rate at social prices is lower than that at traditional efficiency prices. This is relatively unusual and it emphasizes the very low income of households in this category relative to rural incomes in general."

The Value of M/W at the Peak Season

23. Because of the lack of data, the report is only able to give an approximate value of the ratio of M/W for the year as a whole. It is possible that the ratio has a lower value in the busy season. If labor is withdrawn from agriculture to work in the public sector project in the busy season the value of M/W in the busy season will be appropriate. The report recommends that an attempt be made to collect more information of the earnings of prime-age workers and their hours of employment in marginal activities in the busy periods of the agricultural cycle in Java. Such data could indeed be culled from existing village studies as a first step. A related and essential question is: how long is the busy season in the village economy? Further data on hours worked and on returns to labor in different activities by month or by season, are also necessary to answer questions on the working of the rural labor market raised in Chapter 3, and the Appendix A to this chapter.

CHAPTER 4

PROSPECTS FOR EMPLOYMENT, OUTPUT AND WAGES

4.01 The purpose of this chapter is to relate the expected increase in labor force in Indonesia to the anticipated growth in output; to inquire about prospects for real wage growth, in particular, for unskilled workers. The timing of unskilled wage growth is, of course, difficult to pinpoint. The approach taken here towards finding an answer consists of examining the historical record of the successful economies of Japan and Korea. In these (originally) rice economies, real wages in agriculture increased sharply after a period of structural transformation of output and employment of varying length and intensity. Along these growth paths, a point came when the rate of growth of real wages rose six to ten times the historically very low rate. It is useful to examine their employment and output structure at the beginning of their modern growth periods; the corresponding changes over a transition period with relatively constant real wages in agriculture; and the characteristics of their "turning point" in terms of the timing and magnitude of sharp real wage growth in agriculture. Then, a comparison is made with conditions in Indonesia where both the initial conditions and the characteristics of the transformation up to the present time are very different from the other cases. So much so, in fact, that if the process of modern growth is similar across rice economies, Indonesia may not reach a turning point along its present growth path.

4.02 Projected labor force growth in Indonesia over the next ten years is a relatively simple task, barring fundamental changes in the labor market scene. Most of the population which will be seeking work in the labor market in the next ten years has been born. The population aged 10 and over is projected to grow at 2.62% p.a. ^{1/} It will be recalled that the conclusion in Chapter 2 on participation rates was that, although the labor force surveys indicated participation rates a few percentage points higher than the censuses, the two alternative sets of data failed to reveal any significant trend. It is probably advisable to accept the growth rate of the population aged 10 and over as the best approximation to the likely growth of the labor force over the next decade.

4.03 On the basis of employment elasticities for the past decade obtained in Chapter 2, the anticipated increase in the labor force requires output growth to be around 7% p.a. to prevent a rise in unemployment. The latest World Bank projections on output growth are well below this required rate. ^{2/} Although the growth rate of GDP is expected to pick up from its expected low level during 1983, the projected growth rate for the later years of the decade is only 5.3%. These projected sectoral growth rates of

^{1/} World Bank (1982), Annex II, Table 5, p. 192.

^{2/} See World Bank (1983), p. 27.

employment corresponding to the World Bank's expectations of output growth are given in Table 4.1. It is seen that the overall growth of employment at 2.03% falls significantly below the expected labor force growth of 2.62%. This projection is on the basis of constant participation rates. Some World Bank work has suggested that there might be an upward trend in participation rates in the 1980s primarily due to the increase in market activity of females.^{1/} If this happens the employment situation will be worse than that projected in Table 4.1.

4.04 Another major point emerging from this rather limited numerical exercise is that, in spite of the rather high output growth projected for both agriculture and the secondary sector for the next decade, the tertiary sector will be the dominant sector for the absorption of labor, and the share of this sector in total employment will continue to increase.

Table 4.1: 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
<u>Total</u>	<u>5.20</u>	<u>0.39</u>	<u>2.03</u>

Notes:

- ^a Manufacturing Transport and Public Utilities and Construction.
^b Trade and Services.

This prospect raises many questions about the role of this sector in the overall problem of employment. First, since entry into this sector is easy, the relevant question is not just the absorption of labor, but absorption at what level of income. Earlier chapters have pointed out that there is no firm knowledge about the relative levels or about trends of labor earnings in this sector. Do the anticipated growth rates in output (at 5.13% p.a) and employment at (3.9% p.a.) of Table 4.1 represent a state of affairs in which labor earnings will be growing pari passu with labor productivity in tertiary activities? The growth of tertiary output is itself conjectural. With better knowledge of wages and labor shares in this sector, it might be possible to deduce the growth of incomes (or output). Again, we recommend that high priority be given to such a study.

^{1/} World Bank (1982), Annex II, p. 186.

4.05 A related question - demanding investigation of linkages between sectors - is how the growth rate in agriculture and in the secondary sector in the rural and the urban areas are related to the growth rate in the tertiary sector. Another important question is whether, in fact, the rate of growth of labor absorption given in Table 4.1 can be sustained, and if so, how much of it will take place in Java, and how much in the Outer Islands. This question is examined, in part below.

Prospects for Real Wages and Employment

4.06 If the labor force grows at 2.6% per year and output at about 5.2% per year over the next decade, what are the likely changes in real wages and, in particular, the wages of the unskilled? Again, this question cannot be answered on the basis of current evidence about labor demand and supply schedules in Indonesia, and how they would shift over time as investment and output shift (both in amount and in composition). Such evidence is not available. All one can say is that, on the basis of the experience of output and employment growth in the last decade, the expected rate of growth of the Indonesian economy is not likely to lead to a tightening of the labor market in the 1980s. This conclusion is quite compatible with the increase in real wages in 1980/81. As discussed in Chapter 2 this upward pressure on wages might have been caused by a sharp increase in rice harvest well above its trend rate of growth, and as such, could well be a temporary event.

4.07 The lack of evidence on the process of wage formation in Indonesia calls for two tasks. The first is, as recommended in this report, the accumulation of wage data, over time and across regions, with particular emphasis on wages in rice at the seasonal peak, and the determination of whether comparable labor which, if not employed in rice cultivation has to alternatively work at lower wages somewhere else.

4.08 The second task is to examine the historical experience of other Asian rice economies who have undergone modern economic growth. In these countries, real wages in agriculture did not rise until the process was well advanced. An examination of that historical experience is a useful first step in assessing the Indonesian situation.

4.09 The focus on agricultural wages can be justified on two grounds. The first is positive: to study how the price of unskilled labor changes with economic growth. The second is normative: what are the welfare implications of unskilled real wage growth. At early stages of development, agriculture is the main activity for a large fraction of the labor force and the main source of livelihood for their dependents. Income per person may be well below the agricultural wage, because of the small number of days worked per year and high dependency ratios. In this situation, the use of the agricultural wage as a crude welfare index is justified. As development proceeds, the share of agricultural employment drops, as does its absolute amount (after some point). Income from agricultural activities becomes a smaller fraction of the total income of farm households. By the time the real wage in agriculture starts rising sharply, it has already lost importance as a welfare index for a substantial fraction of the population.

4.10 Indonesia is at an early stage of this process. It is questionable whether its high output growth over the seventies has been associated with the changes in the structure of output and employment that characterized the early stages of growth of the successful rice economies of Japan, and Korea. Admittedly, the parallel is limited since they did not have oil revenues. But, nevertheless, the agricultural wage is an important welfare index in Indonesia.

4.11 In the next section, the overall growth records of Indonesia, Japan and Korea are examined, in terms of their broad output and employment characteristics. Such an overview is followed by brief surveys of the experiences in Japan and Korea regarding agricultural wages, with emphasis on their turning points. Then, wage and employment prospects in Indonesia are examined in the light of the experience in the other economies.

(i) The Overall Growth Record in Indonesia, Japan and Korea

4.12 Table 4.2 gives the structure of output and employment and the corresponding growth rates in Indonesia, Japan and Korea. The last two have gone through the process of modern economic growth and passed the turning point (the period of a few years when the rate of growth of real wages in agriculture becomes six to ten times higher than the historically, very low rate). The turning point in Japan occurred during the fifties; and in Korea in the late sixties. Before this, these two economies went through a period of economic transformation. For Japan, this was a very long period (since the 1870s) of gradual growth in employment (from 0.6 to 1.5%), faster growth in output (from 2.3 to 5.4%), and great changes in the structure of both, always with an absolute decline in agricultural employment (except for a few years after World War II). For Korea, the period of transformation was much shorter, with very high rates of growth in output and employment (about twice those of Japan) and a constant agricultural labor force.

Table 4.2: OUTPUT AND EMPLOYMENT GROWTH BY SECTOR, INDONESIA, JAPAN AND KOREA

	Output (percent per year)					Employment (percent per year)				
	Agriculture	Mining	Secondary	Tertiary	Total	Agriculture	Mining	Secondary	Tertiary	Total
Indonesia										
1961-1971	3.2	8.9	4.2	5.7	4.5	1.4	-	4.4	7.6	2.4
1971-1980	3.6	6.5	12.9	8.3	7.3	1.0	-	4.9	6.1	2.9
Japan										
1887-1902	1.6		5.5	1.9	2.3	-0.1		2.6	1.9	0.7
1905-1917	4.0		7.1	5.1	5.2	-0.3		2.6	1.7	0.6
1917-1937	1.1		6.1	1.8	3.1	-0.3		2.2	2.0	0.8
1937-1962	2.1					-0.2		2.5	2.6	1.5
Korea										
1960-1970	4.4	8.1	17.6	7.7	8.4	-0.3	-	7.1	2.6	1.7
1970-1978	4.0	6.7	16.9	8.0	10.2	0.7	-	11.8	4.2	4.1

Notes and Sources: Indonesia, Chapter 2, Table 2.3 and Table B.4; Table 2.6. Yearly growth rates for output are trend rates.
Japan, as in Table 4.2.
Korea, as in Table 4.2.

4.13 Japan and Java had very similar economic and demographic characteristics during the 1860s. ^{1/} Japan at the turn of the century had characteristics similar to Korea during the 1960s. ^{2/} The comparisons across economies are therefore justified, up to a point. On the basis of these comparisons, what can be said about the present situation of Indonesia, relative to its turning point? About 56% of Indonesian employment in 1980 was in agriculture. Agricultural employment since 1961 has been growing at between 1.0 and 1.5% per year - a rate much higher than the other economies during their transition. But the most important difference is in the growth of tertiary employment. In the other two economies, the ratio of the growth in the secondary and tertiary sectors was above unity, at times about 2 or 3. In Indonesia, it has always been below unity.

4.14 To interpret these historical differences, and to assess the prospects for wages and employment in Indonesia relative to its turning point, more information is needed about the experiences of the other economies. This is the purpose of the brief summaries that follow. The Indonesian experience will then be examined.

(ii) The Period of Transition in Japan

4.15 Table 4.3 presents the sectoral allocation of incremental employment during the Japanese transition. About half was absorbed by tertiary activities, and slightly more than half by the secondary sector, whose contribution increased with greater reductions in agricultural employment.

4.16 During this long transition period, how did real wages change? Figure 4.1 shows the evolution of real ^{3/} wage in agriculture and nonagriculture for the period 1920-1965. The agricultural wage was constant

1/ For an elaboration on this point, see Geertz (1966).

2/ This point is emphasized by De Bever (1976), and used by him to justify the transformation of employment in terms of the number of employed persons into a measure of the flow of labor services in Japan, applying information from Korea.

3/ The money wage in each sector divided by the sectoral price deflator.

Table 4.3: MARGINAL EMPLOYMENT SHARES DURING THE JAPANESE TRANSITION
1887-1962

Period	Total increase in the labor force (millions)	Percent into		
		Agriculture	Secondary	Tertiary
1887-1902	2.1	-13	65	48
1905-1917	1.9	-36	81	55
1917-1937	4.8	-21	66	55
1937-1962	14.0	- 6	54	52

Source: As in Table 4.2.

from 1920-1950, with an increasing trend during the fifties and an acceleration of this trend around 1960. By 1920, the Japanese economy had been growing for fifty years. There is no estimate comparable to Figure 1 dating all the way back to 1870, however, there is an estimate of the agricultural wage for males dating to 1895, given in Figure 4.2. This gives the male daily wage at 1934-36 prices, using two different deflators. ^{1/} There is a cycle in real wages over the fifteen year period 1915-1930, with an upsurge after the First World War. Wages maintained a relatively high plateau for about ten years, but then declined to the level of 1915. The long swing nature of this change, and the acceleration since the fifties, together with the data in Figure 4.1, suggest that the turning point took place well into the post World War II period.

4.17 The dating of the turning point in Japan, with its associated notion of the exhaustion of surplus labor, has been a matter of considerable debate. There are three main positions: (a) the turning point is a post World War II phenomenon; ^{2/} (b) the turning point is a post World War I

^{1/} Figure 4.2 is given in Minami (1968), p. 386. For both deflators, 1934-36 = 1.00.

^{2/} Minami (1968), p. 381; Blumenthal (1980), p. 556; Ohkawa and Rosovsky (1973), p. 42, and Ch. V.

Figure 4.1
Real Wages in Agriculture (W_a) and Non Agriculture (W_n)
(Minami (1967), p. 1974, (1934-36 = 100))

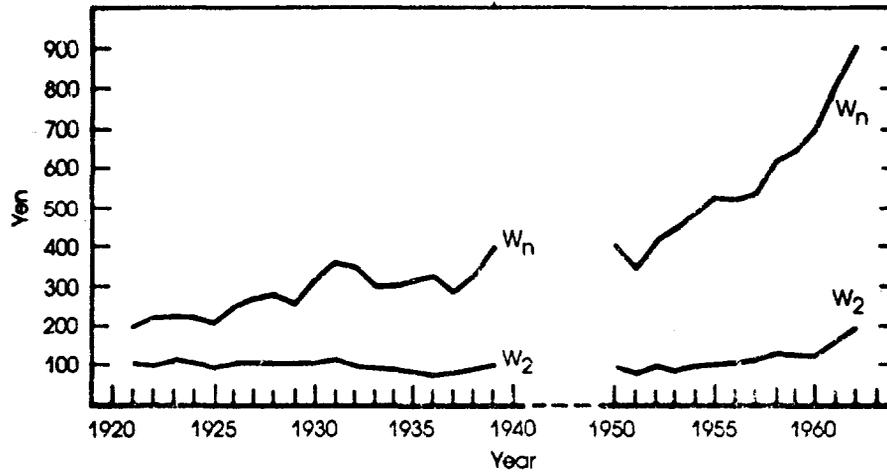
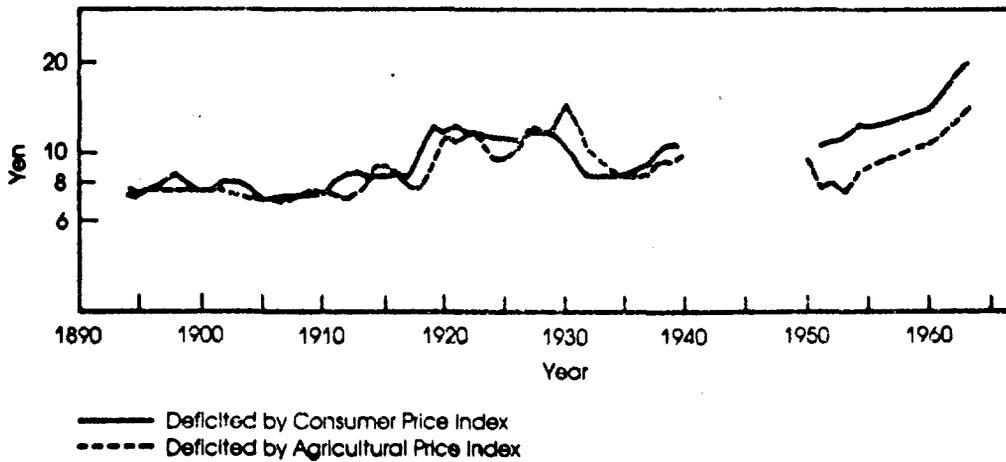


Figure 4.2
Real Daily Wage for Males in Agriculture
(Minami (1968), p. 386, (1934-36 = 1))



phenomenon; ^{1/} (c) there was no turning point, since there never was any surplus labor. ^{2/} Part of this debate reflects differences on how to define surplus labor and what are its implications for wage trends and other economic magnitudes in addition, part of the debate can be traced to differences in the interpretation or measurement of facts. ^{3/}

4.18 The evidence suggests that, in Japan, it took a long period (at least 75 years) of sustained growth in agricultural output ^{4/} and of steady decline in the agricultural labor force, before the price of agricultural labor rose sharply. Between 1951 and 1963, real daily wages for male workers in agriculture grew at 5% per year, six times the rate of growth observed during the period 1894-1939, which was 0.74%. ^{5/} During the sixties, with mechanizations, the agricultural real wage grew even faster, at about 7.2% per year. ^{6/} The changes in labor flows in agricultural activities can be broadly described thanks to the recent contribution by Kaneda (1980); these are summarized in Table 4.4. The number of labor hours applied to a unit of land declined steadily, at a faster rate than the reduction of the agricultural labor force, since 1935. (Figures for 1935 refer to paddy cultivation only. All other years, refer to total agriculture.)

4.19 Thus, the demand for agricultural labor, derived from the demand for output, probably kept increasing, as shown in the increase in days per worker (although the figures before and after the War are not comparable). For a long time, though, such increases did not affect agricultural wages. This strongly suggests a flat supply curve at going wages.

4.20 Labor saving devices in agriculture (that would reduce the growth of labor demand, or make it negative) did not occur until after the turning point. Mechanization did not start until about 1960, after real wages had been growing for about ten years:

"The growing shortage of farm labor in the sixties prompted mechanization of an increasing number of agricultural operations. The use of machines in harvesting, even in transplanting, has spread to all parts of Japan,

^{1/} Fei and Ranis (1964).

^{2/} Jorgenson (1966), pp. 59-60; Taira (1976), p. 431.

^{3/} See Minami (1968), p. 398-400, for a critique of the statement by Jorgenson [(1966) p. 54] on upward trends in agricultural labor income per person from 1878 to 1917.

^{4/} The arithmetic mean of growth rates in agricultural output, Table 6, is 2.2% per year. For total output, the rate is 4%.

^{5/} Minami (1968), p. 385.

^{6/} Hayami et. al. (1975), Table 2.10, p. 35.

particularly to rice farms. The process of mechanizing most field operations...(is) the prima facie evidence of a gradual shift to emphasis from the land-productivity growth to the labor-productivity growth in Japanese agriculture." (Kaneda (1980), p. 478).

Table 4.4: LABOR USE IN JAPANESE AGRICULTURE

	Hours per Tan	Days per Worker
1935	487	146
1953	379	181
1960	317	181
1970	275	226

Notes and Sources: Hours per tan (1 tan = 0.09917 hectares): 1935, Kaneda (1980), Table 1, p. 473, assuming that the labor input was provided only by paddy owner cultivators and tenant farmers; 1953 and 1960, Kaneda (1980), Table 4A, p. 478, computed as the mean of columns 1 and 2, using the weights in columns 5 and 6; 1970, Kaneda (1980), Table 4B, p. 478, computed as simple extrapolation over the labor input measures for 1965 and 1975, by farm size. Days per worker (1 day = 8 hours); 1935, computed from hours per tan, 13,750 workers and 3,290 hectares of paddy land from Hayami and Ruttan (1971), t.C.3, p. 340; 1953, computed from hours per tan, 15,639 workers and 5,931 hectares, from Hayami and Ruttan, *ibid*; 1960, computed from hours per tan, 13,390 workers and 6,071 hectares, from Hayami and Ruttan, *ibid*; 1970, computed from hours per tan, 9,296 workers and 6,071 hectares. The labor force figure is obtained by applying to 13,390 (the 1960 figure), the rate of decline in the labor force for the primary sector reported by Ohkawa and Rosovsky (1973), Basic Statistical Table 15, p. 311.

4.21 With mechanization, labor use in agriculture fell, and the rate of growth of the marginal product of labor must have been very high. The ratio of non-labor to labor inputs probably increased by 10 to 12% annually from 1960 to 1970. ^{1/} With an output elasticity between 0.3 and 0.6, ^{2/}

^{1/} See Hayami et. al. (1975), t. 2.9 p. 33

^{2/} Estimated using Cobb-Douglas production functions. See Akino (1979), Table 4, p. 109, first line; Minami (1969), Table 1, p. 382, footnote.

this level of growth is quite consistent with a 7% growth in the marginal product of labor, ^{1/} which was also the rate of increase of real wages.

4.22 In summary, the process of Japanese economic growth can be characterized by a long period of transition, at roughly constant real agricultural wages, during which the structure of output and employment changed substantially; agricultural development was based upon increases in the productivity of land. During this transition period, there was surplus labor, in the sense that demand/supply forces ^{2/} did not determine unskilled wages, either in agriculture or elsewhere. The transition ended somewhere during the fifties, when agriculture contributed about one-tenth of value added and absorbed about one-third of the labor force. Mechanization in agriculture and sharp increases in the productivity of labor occurred at that point. By 1970, agriculture absorbed only one-fifth of the labor force and agricultural income was only one-third of the total income of farm households, down from 64% in 1953-55 and 50% in 1960. ^{3/} Under these conditions, the agricultural wage had clearly ceased to be an adequate welfare index; and demand/supply forces in the labor market had become useful predictors of wage and employment trends.

(iii) The Korean Record

4.23 The period of transition in Korea was short and intense. This and usual data deficiencies make it more difficult to date the Korean turning point. Available evidence suggests that it occurred in the late sixties. Between 1962 and 1968, the wage per farm employee (in 1970 US\$) grew ^{4/} by 0.74% per year. Between 1968 and 1973, the corresponding rate was 8.8%. The series of monthly earnings of production workers in agriculture from 1959 to 1962 shows movement roughly in accordance with changes in rate of the cost of living index in Seoul and the index of prices received by farmers. ^{5/}

4.24 There exist two sources of information about changes in the structure of employment during the sixties: the population censuses of 1960, 1966 and 1970; and the quarterly sample surveys carried out since 1963. These

^{1/} The rate of change in the marginal product of labor is equal to the rate of exogenous technical change plus the product of the output elasticity of labor and the rate of growth of the non-labor/labor input ratio, in the Cobb-Douglas case. See Annex A.

^{2/} The implication of surplus labor for the distribution of income outside agriculture have been examined by Minami and Ono (1980).

^{3/} For these figures, see Ohkawa and Rosovsky (1973), Basic Statistical Table 15, p. 311; and Kaneda (1980), Table 8, p. 484.

^{4/} See Hong (1976), Table 5.2, column 4, p. 37.

^{5/} See Economic Planning Board (1970), Table IX. 4, column 2, p. 86; Table X. 5, column 1, p. 93; Table X. 6, column 1, p. 94.

show different rates of growth in employment over the period 1966-70 - 6.3% per year from the census, 3.7% from the sample surveys. It is generally believed that the sample surveys underestimate. According to them, the open unemployment rate declined from 8.2% in 1963 to 4.1% in 1974. ^{1/}

4.25 For the purpose of this report (the comparison with the Indonesian experience), rough estimates of marginal employment shares by sector have been calculated; these are presented in Table 4.5. It is to be emphasized that: (a) both sources indicate an increase in the marginal employment share in agriculture after the turning point; (b) the ratio of the marginal employment shares in "other," relative to manufacture varies between 1 and 2.2.

(iv) On the Extensive and Intensive Margins of Cultivation in Indonesia

4.26 The overall comparisons of Tables 4.5 and 4.6, together with the summaries of the growth experience in two Asian rice economies which have passed the turning point, bring into focus the main questions to be asked about wage and employment prospects in Indonesia: For how long can the growth in agricultural employment go on? Has Indonesia more scope now for labor absorption in agriculture than the other Asian rice economies during their transition periods? Some preliminary answers to these questions can be obtained by examining the intensive and extensive margins of cultivation in Indonesian agriculture. The remarks that follow are limited, on the whole, to Java and to paddy cultivation.

Table 4.5: SECTORAL ALLOCATION OF ADDITIONAL EMPLOYMENT IN KOREA

	Additional employment (millions)	Percent into		
		Primary	Manufacture	Other
A. Census				
1960-66	0.93	-3	52	52
1966-70	2.18	28	23	50
B. Sample Surveys				
1963-68	1.49	1	38	61
1968-73	1.99	36	30	34

Source: Hong (1976), Table 4.3, p. 27. The primary sector includes Agriculture, Fishery and Mining. "Other" includes services, transport, public utilities and construction.

^{1/} See Hong (1976), Table 4.2, column 9, p. 25, and p. 26.

4.27 Table 4.6 contains the man/land ratio for Java (1971), and for the other economies at different points in their transition periods. Ignoring the incidence of multiple cropping, the low figure for Java contrasts sharply with the other economies. Arable land per worker was much lower in Java in 1971 than in Japan or Korea during the 1960s. Given this situation, with respect to the extensive margin, is Javanese agriculture significantly far from the point of intensive cultivation attained by Japan and Korea during their transition periods?

4.28 In Asian agriculture there is a strong positive correlation between output and labor use, (expressed in units of land). ^{1/} This holds within countries by farm size, and across countries. Japan and Korea had very high values for both variables, relative to India, ^{2/} during the 1950s. What can be said about the values for Indonesia? Some comparisons

Table 4.6: RATIO OF FARM LAND TO AGRICULTURAL EMPLOYMENT, INDONESIA, JAPAN AND KOREA

		Ha/worker
Indonesia	1971	0.487
Java	1971	0.316
Japan	1878-1882	0.326
	1918-1922	0.433
Korea	1960	0.430
	1960	0.450

Sources: Indonesia, Employment in Agriculture from Appendix Tables IIB.3, IIB.4. Agricultural employment in Java is 0.608 of total employment in agriculture (see Population Census, Series C, Table 44, p. 222). Japan, Ohkawa, Johnston and Kaneda (1970), Table 1, p. 108, LTES estimates for 1878-1922. Korea, Korea, ibid.

^{1/} See Ishikawa (1967), chart 3-3, p. 230-231. After a point, the correlation turns negative, as in Japan during the fifties.

^{2/} The cross country relationship estimated by Ishikawa (1967), pp. 235 using the proportion of irrigated land, G/L as a shift variable was $\log(Q/L) = -.026 + 1.079 \log(N/L) - 0.531 (\log N/L)^2 + 0.0062 (G/L)$, $R^2 = 0.845$, where (Q/L, N/L) are output and labor flow per hectare.

for paddy are available, (see Table 4.7). Paddy yields in Java, at least in some regions, ^{1/} comparable to yields in Korea (1960), and Japan (1950). They are definitely above yields in the Philippines and India. Correspondingly, labor input (in man-days per hectare) in rice cultivation is already high.

(vi) Long Term Employment Prospects Under Present Trends

4.29 The lesson from the previous sections is that the turning point (a sharp increase in the agriculture wage) came late in the growth process of two Asian rice economies which we have examined. In each case, the turning point was preceded by significant structural transformations. Subsequently more changes occurred which caused the agricultural wage to cease to be a relevant indicator of welfare because of a shrinking agricultural labor force

Table 4.7: PADDY YIELD PER HECTARE AND LABOR INPUT PER HECTARE IN ASIAN AGRICULTURE

	Paddy yield (metric ton/ha)	Labor input (days per ha)
<u>Japan</u>		
1950 National	4.249	255.6
1962 National	5.798	190.0
<u>Korea</u>		
1960	3.271	139
<u>China</u>		
East Central 1921-25	2.559	146
<u>Philippines</u>		
Central Luzon-Lagra 1966	2.2	60
Central Luzon-Lagra 1974	2.2	82
<u>India</u>		
Hoogly 1956-57	1.800	132.9
24-Pagamas 1956-7	1.541	103.4
<u>Indonesia</u>		
Sidoarjo, E. Java 1971	4.5	256
Subang, W. Java 1971	3.0	170

Source: Ishikawa (1978), Table 1, p. 4; p. 30

^{1/} Overall paddy yield for Indonesia has been computed as 3.6 tons/hectare World Bank (1979), Annex, Table 7.3, p. 199.

and a decline in the proportion represented by agricultural income in the total income of farmers. Change after the turning point also takes a long time. 1/

4.30 Indonesia is still far from the turning point. The immediate question is whether the economy is moving toward or away from it, given the present trends in output and employment. A preliminary analysis of this question can be made using fixed input labor coefficients in agricultural activities, setting them at values that systematically err on the conservative side: too high on the side of demand and too low on the side of supply.

4.31 The experience of other Asian rice economies at their turning points provides a conservative definition of full employment labor input (man-days per hectare) in agricultural activity. Consider three workers per hectare, the situation in Indonesia around 1971, and let 200 be the number of man-days per worker in agriculture at full employment (i.e., around the turning point). To err conservatively, let the full employment figure be 180 man-days, i.e., 540 man-days per hectare. This hypothetical supply flow can be matched with a demand flow by specifying the typical use of a hectare and its associated labor input coefficients. Such rough calculation has been made by J. Goldberg 2/ for Java. Under his assumptions, again designed to establish an upper bound to demand, the labor use per hectare comes to 450 man-days. 3/, 4/.

1/ In Korea, for example, 70% of total farm income still comes from agricultural activities, in 1977. See Korea, Ministry of Agriculture and Fisheries (1978), Table 2.1, p. 52-3. In Japan, it was pointed out above that such proportion was one third in the seventies.

2/ See J. Goldberg (AEPIA), World Bank memorandum, December 20, 1979.

3/ A hectare is used as follows: 0.40, sawah; 0.40, tegal; 0.20, tree crops. All 0.80 hectares of field crops are assumed to have 200% cropping intensity. All tegal is doubled cropped with dry field crops; dry season sawah is half utilized for irrigated rice and half for rice field. Tree crops are worked all year long. The labor input coefficients are:

Wet rice: 200 man-days/ha
Dry field crop: 180 man-days/ha
Tree crops: 120 man-days/ha

The demand for labor services is then:

Sawah: $0.4 \times 1.5 \times 250 = 150$
 $0.4 \times 0.5 \times 180 = 36$
Tegal: $0.4 \times 2 \times 180 = 144$

Tree Crops: $0.2 \times 1 \times 120 = 120$
Total 450 man-days.

4/ In the field surveys quoted above (p. 25) the man-days per hectare in paddy cultivation ranged between 170 and 256.

4.32 Under these assumptions, demand falls short of "full employment" supply in agriculture by about 20%. Thus, in spite of the sustained output growth in agriculture during the last decade, the Javanese workers dependent on this sector are significantly away from anything approaching full employment in agricultural activities, even under the most conservative estimates. We have no data on the elasticity of hours (or man-days) of work demanded in agriculture with respect to the growth in output. So we do not know whether the man-days per agricultural worker have been increasing or decreasing. Assuming a figure of 0.39 for the elasticity of demand for labor measured in man-days, which seems reasonable for Indonesia, a 3.6% yearly rate of output growth implies a growth rate for labor demand (in man-days) of 1.4% per worker. But, as we have seen, growth of the labor force in agriculture was around 1% p.a. Thus, it seems that any tendency for the flow of man-days per agricultural worker to increase has been very modest at best. This is, of course, in keeping with the observed stagnation of real wages in agriculture.

4.33 If the growth prospects for output and employment continue the trends of the last decade, we would expect little movement towards the turning point of full employment in agriculture. But actually there may be no movement at all, for two reasons:

- (a) How long could a 3.6% rate of agricultural output growth be sustained? As we have indicated, rice cultivation in Java is probably close to the intensive margin, and the impact of high yielding varieties and the commercialization of agriculture will gradually be exhausted.
- (b) There has been much discussion in Indonesia about labor-saving innovations and mechanization which tend to reduce the elasticity of demand for labor in agriculture. These changes are partly a product of the commercialization of agriculture, and partly induced by a policy of subsidizing the price of capital. ^{1/}

4.34 All these points emphasize the importance of further systematic examination of the likely magnitudes of the elasticity of demand for labor in Indonesian agriculture, in the light of the changing structure of outputs and inputs in this sector. In the absence of more information, the tentative position of this report is that if the number of workers primarily dependent on agriculture continue to increase at its previous rate, there will not be any perceptible movement towards the turning point, with the current trends in output growth.

4.35 The ability to provide non-agricultural jobs to a larger proportion of the incremental labor force depends upon the successful development of non-agricultural sectors. In this context, this report has noted a peculiarity of Indonesian development in the last decade: the proportion of the additional labor force going into tertiary activities is much higher than that observed in the successful development process of Japan and Korea. This suggests that a sustained effort should be made to collect information about earning opportunities in the tertiary sector.

^{1/} See, on this point, Sinaga (1978), pp. 2-3

Long Run Employment Problems in Indonesia:
Alternative Views, Implications and Tests

1. Table A1 gives the rates of growth of output and employment in Indonesia during the seventies. It also gives the employment growth rates for Java separately, to be compared with output growth rates in Java when these become available. The labor force is expected to grow at about 2.6% per year during the eighties, that is, two million entrants per year. Against this background, the main questions about trends in wages and employment are: (a) how much longer can agricultural employment, particularly in Java, keep growing? (b) what are the trends in the structure of pay and how is labor used in activities outside agriculture? (c) when will wages in agriculture and, unskilled wages in general, start to rise? (d) what are the forces producing fast output growth with roughly constant wages for a large fraction of the labor force?

2. While no final solutions are at hand, groping towards an answer to these questions requires a study of alternative views of how markets, especially that for labor, function in Indonesia. A formalized presentation of alternative micro models of rural labor markets was given in Appendix A to Chapter 3. The purpose of this Annex is to set out and compare the various macroeconomic implications of these alternative views and to recommend field work which might test their validity to the Indonesian context.

Table A1: YEARLY OUTPUT AND EMPLOYMENT GROWTH RATES, 1971-1980

	Percent per year		
	Output	Employment	
	Indonesia %	Indonesia %	Java %
Agriculture	3.6	1.0	0.5
Secondary	12.7	5.3	5.2
Tertiary	8.3	6.2	5.6
Mining	6.5	-	-
<u>Total</u>	<u>7.3</u>	<u>2.9</u>	<u>2.6</u>

Source: Chapter 2, Tables 2.3 and 2.6.

I. Full Employment

3. On the simplest economic theory of wage determination, Indonesia employers would hire labor until the wage is equal to the value of the marginal product; workers would offer labor until the wage is equal to the marginal disutility of effort; and, in the long run, the market mechanism would ensure that observed wages reflect both. A study of wage and employment trends in Indonesia would then review changes in the forces affecting labor supply and demand.

4. Employment status would be immaterial. With well integrated labor markets, everyone could become a wage laborer, and 36% of the labor force in 1977 chose to, while 45% preferred self-employment or unpaid family work. Also, wages might be very low, and indeed they are in marginal activities in rural Java. Wage differentials across workers may be high. But all this would result from workers' lack of skills or inadequate complementary nonlabor inputs, and from differences in skills among workers. In this view, the causation would run from efficiency and skill to wages. A worker making five times per hour what another does, would be viewed as five times more efficient, as having five times more "labor units" than the other. The only exception to this general rule would occur if wages were administered (as in plantations in the government sector); or if there were restrictions on the freedom to hire and fire workers (like those facing foreign firms). For the economy as a whole, these are in fact, probably unimportant. Trade unions or employers' associations would also represent "market distortions" but these are fairly unimportant in Indonesia at the present time.

5. This view of the Indonesian labor market can be represented formally in aggregate terms. Such representation could be used to organize existing data and to determine new data which would be needed to answer the questions about wage and employment trends listed above. The most aggregative representation will be considered first, in order to bring out the main ideas more clearly, and to prepare the ground for the sectoral disaggregation that follows.

6. Consider the aggregate production function $X = F(K, L, t)$ relating all non labor inputs, K , and all labor inputs, L , to aggregate output. The passage of time affects output in two ways, at a constant input use. First, through the rate of technical progress, σ , defined at F_t/F . Second, through the bias of technical progress, β , defined as $\log(F_L/F_K)/t$. If $\beta < 0$, technical progress is biased against labor use: the marginal product of capital increases, relative to that of labor, at a constant input use. With the aggregate production function written in intensive form, ^{1/}
 $X = Lf(k, t)$, the rate and bias of technical progress are

$$\alpha = f_t/f, \beta = (1-v)^{-1} (\alpha - f'_t/f_t),$$

^{1/} Where $f(k, t) = F(k, 1, t)$, and $k = K/L$, assuming constant returns to scale for the economy as a whole.

where $v(k,t) = kf'/f$, the share of capital, and $f_t(k,t) = \partial f/\partial t$, $f'(k,t) = \partial f/\partial k$, $\partial f_t' = \partial f'/\partial t$.

7. The rate of growth in output, g , is linked to the rate of technical progress α , to the rate of employment growth λ , and to the rate of change in the capital labor ratio, g_k , by the expression

$$g = \lambda + \alpha + vg_k . \quad (1)$$

8. The marginal product of labor is $h(k, t)$, defined as

$$h(k,t) = \partial X/\partial L = f(k,t) - kf'(k,t),$$

and it changes over time at the rate of g_h given by

$$g_h = \alpha + \beta v + (v/\sigma)g_k, \quad (2)$$

where σ is the elasticity of substitution between the capital and labor aggregates. From (2), it can be seen that there is always a high enough saving bias, $-\beta$, such that $g_h = 0$, in normal situations with $g_k < 0$. If the marginal product of labor does not change, any sequence of output and employment growth rates (g, λ) is compatible with constancy of wages in terms of output.

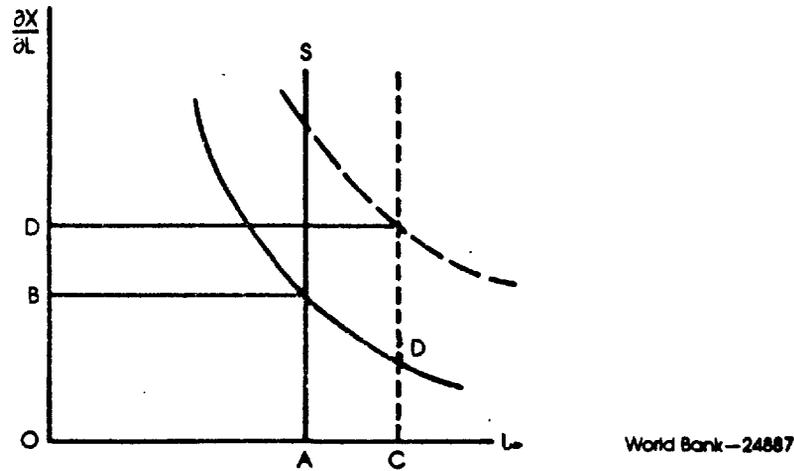
9. Equations (1) and (2) can be combined to describe the moving equilibrium in the labor market when factors get paid their marginal product. We can then ask what are the characteristics of such moving equilibrium in the case of Indonesia.

10. Substituting vg_k from (1) into (2), the equilibrium change in g_h is obtained as

$$\sigma g_h = (g - \lambda) - (1 - \sigma)\alpha + \sigma\beta v \quad (3)$$

Equation (3) can be interpreted as in Figure 1. In this figure, the pair (OA, OB) represents the equilibrium levels of employment and wages at a base year. The amount $(OC/OA) - 1$ is λ , the one period rate of change in employment interpreted as a trend rate, (i.e., the yearly rate observed over a period of ten to fifteen years). It corresponds to a shift in the (inelastic) labor supply schedule. The amount $(OD/OB) - 1$ is g_h , the one period change in the (equilibrium) marginal product of labor, interpreted also as a trend rate. A large enough λ , or a small enough shift in the demand for labor would make $g_h = 0$, (i.e., zero rate of growth of the product wage).

Figure 1
Moving Equilibrium in the Labor Market:
Full Employment in a One Sector Model



11. On this full employment view of Indonesian labor markets, in the aggregate, changes in the average product of labor, $(g-\lambda)$, are related to changes in its marginal product, through technological characteristics, (α, β, σ) , and through factor endowments, k , that uniquely determine the share of capital v . These are the forces that would determine, on the whole and over long periods of time, the evolution of real wages.

12. Suppose that the changes in the number of employed persons is an adequate index of the changes in the labor input in Indonesia. Formula (3) gives then the associated values for the change in the real wage (per worker), over a period of 10 to 15 years of Indonesian growth Table A2 gives those values for $g = 0.08$, $\lambda = 0.03$ and $\beta = 0$, for elasticities of substitution between 0.5 and 1.5, and rates of technical progress between zero and 5%. For $\beta < 0$, all entries can be easily transformed into different, lower rates, (see Note 3, Table A2.)

13. An empirical estimate of β is very difficult to obtain, and so it is also difficult to obtain an empirical estimate of σ . If the aggregate production function were of the CES form with factor augmenting technical progress, ^{1/} the bias would be $\beta = \rho\gamma$, with $\rho = 1-(1/\sigma)$ and where γ is the difference between the rates of growth of labor and capital augmentation. ^{2/} A unit elasticity of substitution would be incompatible with any bias (a clear indication of how narrow a representation of biased technical change a CES with factor augmentation is). In any event, β would then be estimable. The highest value of labor saving bias ever estimated corresponds to agriculture in Japan after Second World War, during and after the Japanese turning point

^{1/} So that $X^\rho = (\alpha_K K)^\rho + (\alpha_L L)^\rho$, $\rho = 1-(1/\sigma)$.

^{2/} For the derivations, see Ferguson (1969), p. 244.

and the process of mechanization in Japanese farms. It was 23%. ^{1/} Values of 15 to 20% for the labor saving bias have also been estimated for the manufacturing industry in the Philippines for the period 1957-63. ^{2/} In all cases, these estimates come from marginal productivity conditions as the estimating equations, so that the estimated bias is whatever is necessary to make the data fit the equation, (as in the choice of an intercept), rather than a test of the hypothesis imbedded in the estimating equation itself.

14. Indonesian agriculture is very far away from such a degree of mechanization. Also, the value of β to be used in Table A2 does not refer to agriculture alone, but to the economy as a whole. But there is no independent evidence on what β might be in Indonesia. This by itself might be a research issue of some interest. Only then would it be possible to obtain an estimate of the average (trend) rate of change in the marginal product of Indonesian labor to be compared with the average rate of change in the overall real wage.

Table A2: YEARLY PERCENTAGE INCREASE IN THE AVERAGE RATE WAGE FOR DIFFERENT RATES OF SUBSTITUTION AND TECHNICAL PROGRESS

Rate of technical progress (% per year)	Elasticity of Substitution				
	0.50	0.75	1.00	1.25	1.50
0	10.0	7.0	5.0	4.0	3.0
1	9.0	6.3	5.0	4.2	3.7
2	8.0	6.0	5.0	4.4	4.0
3	7.0	5.7	5.0	4.6	4.3
4	6.0	5.3	5.0	4.8	4.7
5	5.0	5.0	5.0	5.0	5.0

- Notes:
1. Based on formula (3), with $g = 0.08$, $\lambda = 0.03$, $\beta = 0$. Labor supply is assumed to be inelastic.
 2. With labor saving technical progress, each entry in the table has a different interpretation: it is the product of the bias of technical progress times the share of capital that would make the real wage constant over time. As a rule of thumb let the share of capital be one half. Then, all entries, times two, give the labor saving bias needed for a constant real wage.
 3. From each entry, subtract the product of the (absolute value) of the bias of technical progress and the share of capital. The result is the rate of growth in the average real wage (per worker) under that bias, $-\beta$.

Source:

^{1/} See Sawada (1970, p. 146, Table 2, line 3).

^{2/} See Williamson (1971, p. 59, Table V, last two lines).

15. The question at hand, then, is whether the average real wage per worker in Indonesia has grown within the range of values given in Table A2, after adjustment for any labor saving bias, over a 10 to 15 year period. The midpoint for this range is about 4 to 5% per year. The evidence on real wage changes in Indonesia is scanty. Wages in kind in rice cultivation vary over villages and over time, mostly due to differences in the price of rice, as indicated in Chapter 2. But, on the whole, and in a trend sense, real wages do not appear to increase - certainly not by comparison with the Korean experience at its turning point, after a similar period (10 to 15 years) of similar increase in agricultural output with constant, or slightly increasing labor force in agriculture. Other real wages (in terms of cost of living indexes) that do not exhibit increasing trends in Chapter 2 are the ones for permanent workers in plantations, or unskilled workers in construction. All these trends may have changed since 1980. But the recent increases in real wages are comparable to those experienced in the past, for short periods of time.

16. It is not known how much of this evidence can be extrapolated to the whole of the Indonesian labor force. Additional evidence (on rural wages, in particular) is sorely needed. However, given the assumption of integrated labor markets in equation (3), above, the statement that growth in Indonesia is taking place with roughly constant real wages for the unskilled appears justified. To the extent that there exists skill accumulation in rice cultivation (with the Green Revolution), the statement is different: growth might be occurring at constant average real wages per labor unit (but increasing per worker). In any case, if labor markets are integrated, it appears that growth in Indonesia is in fact not affecting the real wage of a large fraction of the labor force, contrary to the values in Table A2.

17. To resolve the possible inconsistency between the simple wage theory and the facts of Indonesian development, four avenues can be pursued. The first is to postulate very high labor saving bias. The second is the transformation of units to measure labor: to define labor in efficiency units, as opposed to the number of employed persons. The third is to consider changes in relative prices. The fourth, and by far the most important, is to check the facts and proceed with the accumulation of data on wage trends for different groups of workers. The rest of this section outlines how to advance on the second and third avenues.

a. Accumulation of Skill

18. Suppose that Indonesian labor services are measured in terms of labor units, rather than people. It is necessary to reinterpret λ in equation (3) and this can be done in two ways. Assume that one unskilled worker has only one labor unit. All other workers have more than one labor unit. If to use their labor units they require a fixed number of units of nonlabor inputs, the analysis in equation (3) and Table A2 follows, reinterpreting λ as the rate of growth of unskilled labor, and pooling the accumulation of skills with the accumulation of capital. Then $\lambda < 0.03$ (because the increase in the number of unskilled workers is lower than the rate of growth of employment). The rate of growth of unskilled wages should then have been higher than the values

in Table A2, while in fact no such rates have been observed for unskilled wages. This yields the following

Proposition: If skills and nonlabor inputs are used in fixed proportions in Indonesia, equation (3) is inconsistent with observed trends in output and employment, given the parameter values in Table A2.

19. An alternative interpretation of λ is as λ_e , the rate of growth of total labor units, assuming that unskilled and skilled labor can be combined into a total labor index. It is necessary, then, to specify how many labor units are contained in each worker, a difficult matter. Assume that one unskilled worker has one labor unit, and that one skilled worker has as many labor units as the ratio of wages of skilled to unskilled workers. For an application to Indonesia, we must now distinguish between total employment and total labor units. To proceed, and to establish a benchmark, choose a generous index of skill accumulation: the educational attainment of the population of working age. In 1961, 16% of such population had primary education or more. In 1978, the proportion was 34%. The wage ratio in 1977-78 was 2 (as approximated by earning ratios from SAKERNAS 1977). It follows that Indonesia had 72.8 million labor units in 1978, with 54.2 million workers. In 1961 the wage ratio was in the interval (1, 2), assuming that skilled workers made at least as much as unskilled ones and that skilled wages have not grown more slowly than wages for the unskilled. Take the midpoint, 1.5. This means that Indonesia had 35.3 million labor units in 1961, with 32.7 million workers. The yearly rate of growth of labor units between 1978 and 1981 was therefore 4.3%, which is the value for λ_e in (3). It implies a rate of growth of skilled wages of 1.7% per year, if unskilled wages have not grown at all. Recomputing all entries in Table A2 with $\lambda_e = 0.043$ yields figures that have the following interpretation: the product of the rate of growth of skilled wages times the share of skilled wages in the total wage bill, such that there exists full employment plus constancy of unskilled wages. The entries in Table A3 give this product. The corresponding rate of growth in skilled wages is higher and way out of line with the implied growth rate by construction, 1.7%.

20. The calculations in Table A3 are not, of course, an adequate treatment of skill accumulation in Indonesia. But they serve to illustrate the principles on which such treatment should be based. First, any definition of skill should lead directly to measures of total labor units that are in one to one correspondence with total employment. Second, any definition yields, by construction, the rate of growth in skilled wages compatible with constancy of unskilled wages. Third, this implied rate of growth is to be compared with the rate of growth necessary for full employment in equation (3).

21. In the context of Table A3, it is possible to define a higher λ_e and thus to reduce the gap between the full employment increase in skilled wages and the increase implied by such definition. In particular, widespread increases in skill due to improvements in rice cultivation techniques would make $\lambda_e = 0.043$ a low estimate. But, if this is so, the observed wages per worker in rice cultivation should have increased at a faster rate than is apparent from available data. This yields the following:

Table A3: RATES OF GROWTH OF SKILLED WAGES TIMES
THEIR SHARE IN THE LABOR BILL, IN (3)

Rates of technical progress (%)	Elasticity of Substitution		
	0.5	1	1.5
0	7.39	3.71	2.51
1	6.41	3.71	2.80
2	5.39	3.71	3.09
3	4.40	3.71	3.49

- Notes:
1. Based on (3) with $g = 0.08$, $\lambda_e = 0.043$, $\beta = 0$. Labor supply is assumed to be inelastic.
 2. Skilled employment, relative to the total, is defined by the proportion of the population 10 and older with primary education or more. It was 34% in 1978, with a wage ratio of 2. The wage ratio in 1961 is assumed to be 1.5, and skilled employment then was 16%.
 3. Figures correspond to full employment with constant unskilled wage.

Proposition: If there has been substantial skill accumulation in the cultivation of rice, shared by all workers, the constancy of average wages per worker is inconsistent with (3).

22. The model of wage determination over the long run in equations (1) - (3) is, of course, very simple and abstract. Nevertheless, it has been used to examine some aspects of Indonesian growth. Hayami and Kikuchi (1982) apply it to Indonesian agriculture to illustrate, with data for two villages, how technical progress results in increases in the wage rate and, if it is of the 'right' kind, in increases in the labor share and absolute labor incomes as well. It may be useful to complicate the model slightly, to check how the introduction of relative prices affects the results obtained so far.

1/ Even within the confines of such a model, the analysis so far is not complete. For example, no attempt has been made to introduce labor supply schedules with positive elasticity. It can be shown that the elasticity of labor supply that would account for a one percentage point difference between the employment growth rate and the population growth rate lies between 0.10 and 0.30 for $0 < \lambda < 0.05$, $0.5 < \lambda < 1.5$; and that it does not affect much the values in Table A2.

b. Sectoral Disaggregation

23. Equation (1) and (2) can be rewritten for each one of the three sectors in Table A1, (excluding mining). The rate of sectoral output growth is

$$g_i = \lambda_i + \alpha_i + v_i g_k^i, \quad (i=1,2,3) \quad (4)$$

Where g_k^1 is the rate of growth of the land/labor ratio in agriculture (with land including all nonlabor inputs and adjusted for double cropping); g_k^2 is the rate of growth of the capital/labor ratio in the secondary sector (which consists of manufacturing, construction, transport and public utilities); and g_k^3 is the capital/labor ratio in tertiary activities. In 1978, sector 1 produced one third of total output and absorbed 59% of employment; sector 2, 24 and 11%; and sector 3, 39 and 29%^{1/}

24. The marginal product of labor changes in each sector according to

$$g_h^i = \alpha_i + \beta_i v_i + (v_i/\sigma_i) g_k^i, \quad i = 1,2,3 \quad (5)$$

25. Equilibrium in the labor market implies that labor is allocated to all sectors so that the value of the marginal product in each is the same. Let $h_i = X_i/L_i$ ($i = 1, 2, 3$), and $p = P_1/P_2$, $l = P_1/P_3$ (this last ratio on the account of the constancy of the corresponding relative price deflators documented in Chapter 2). Then the equilibrium conditions are $ph_1 = h_2$, $h_1 = h_3$. Their time differentials yield the link between sectoral wages (in terms of sectoral output) and changes in relative prices given by

$$g_p = g_h^2 - g_h^1, \quad g_h^1 = g_h^3.$$

26. Using the values in Table A1, equations (4), (5) can be combined to yield the three counterparts of equation (3),

$$\begin{aligned} \sigma_1 g_h^1 &= 0.026 - (1-\sigma_1) \alpha_1 + \sigma_1 \beta_1 v_1 \\ \sigma_2 g_h^2 &= 0.074 - (1-\sigma_2) \alpha_2 + \sigma_2 \beta_2 v_2 \\ \sigma_e g_h^3 &= 0.021 - (1-\sigma_3) \alpha_3 + \sigma_3 \beta_3 v_3 \end{aligned} \quad (6)$$

^{1/} The remaining 11% of output originated in mining, in 1978.

27. A set of tables analogous to Table A2 can then be constructed for each sector. To illustrate, consider the special case where $\sigma_3 = 1, \beta_3 = 0$, so that the labor share in the tertiary sector is constant and there is no labor saving bias in the technical progress in that sector. These assumptions are perhaps 'realistic'.

28. From $g_n^1 = g_n^3$, it follows that the marginal product of labor in agriculture would have grown at the average rate of 2.1% per year. There is no evidence that wages in agriculture (in terms of agricultural output) have grown at this rate.

29. The illustration in the preceding paragraph is not interesting if σ_3 and β_3 are not one and zero, respectively. It is useful then to construct the table analogous to A2, separately for the three sectors. Checks for rough consistency between the simple theory of wage determination and Indonesian data can be done, now using the three equations in (6) and the links between relative prices and the marginal product of labor.

30. The figures are given in Table A4. With a unitary elasticity of substitution and no labor saving bias in technical progress, wages in agriculture and services, in terms of the respective sectoral output, should have grown at 2.6% and 2.1% per year over the seventies. Wages in the secondary sector, also in terms of output in that sector, should have grown at 7.4% per year. This would be consistent with an increase in the price of agricultural goods, relative to secondary sector output, of about 5% per year over the decade. There is no evidence that any of these changes took place, with the possible exception of large, lagged adjustments in agricultural wages since 1980.

31. This may simply reflect the inadequacy of available evidence, although too many things are just not showing up for this inadequacy to be a sufficient explanation. Alternatively, it may indicate that the elasticity

Table A4: YEARLY PERCENTAGE INCREASE IN WAGES IN TERMS OF SECTORAL OUTPUT FOR DIFFERENT RATES OF SUBSTITUTION AND TECHNICAL PROGRESS

Rate of Techni- cal Progress (% per Year)	Elasticity of Substitution				
	0.5	1.0	1.5	2.0	2.5
Agriculture					
0	5.2	2.6	1.7	1.3	1.0
1	4.2	2.6	2.1	1.8	1.6
2	3.2	2.6	2.4	2.3	2.2
3	2.2	2.6	2.7	2.8	2.8
4	1.2	2.6	3.1	3.3	3.4
5	0.2	2.6	3.4	3.8	4.0
Secondary sector					
0	14.8	7.4	4.9	3.7	3.0
1	13.8	7.4	5.3	4.2	3.6
2	12.8	7.4	5.6	4.7	4.2
3	11.8	7.4	5.9	5.2	4.8
4	10.8	7.4	6.3	5.7	5.4
5	9.8	7.4	6.6	6.2	6.0
Tertiary sector					
0	4.2	2.1	1.4	1.1	0.8
1	3.2	2.1	1.7	1.6	1.4
2	2.2	2.1	2.1	2.1	2.0
3	1.2	2.1	2.4	2.6	2.6
4	0.2	2.1	2.7	3.1	3.2
5	-0.8	2.1	3.1	3.6	3.8

Notes: Computed from (6) with (g_i, λ_i) as in Table A1 and $\beta_i = 0$, $(i = 1, 2, 3)$.

of substitution is not unity and/or that technical progress has a labor saving bias. Econometric estimates of the elasticity of substitution between capital and labor in manufacturing in developing countries are not significantly different from one, though. Much less is known about estimates of labor saving bias in technical progress. It may turn out that such bias, in Indonesia, is sufficient to reconcile the figures in Table A4 with fast output growth and constant real wages. Independent evidence of the magnitude of such bias, by sector, is worth obtaining, therefore, as an input into projections of future wage and employment trends.

32. It may also be that, despite econometric estimates, the relevant elasticity of substitution is very large. (From Table A4, it can be seen that the higher such elasticity, the smaller is the corresponding rate of change in the marginal product of labor and the product wage in each sector). The wage rental ratio may be the same for all activities within the secondary sector, say, and yet the composition of output may be shifting towards the more capital intensive activities, with an increase in the capital labor ratio for the sector as a whole. If that were the case, the elasticity of substitution would in fact be infinite, in the secondary sector.^{1/} The same argument might apply to the other sectors. The relevant figures in Table A4 would then be small.

33. This possibility, if true, would imply that available econometric estimates have to be rejected. Before doing this, it would be advisable to find out what are the changes over time in the wage rental ratio in Indonesia, together with changes in the sectoral composition of output. However, these matters are outside the scope of this Annex.

34. The general conclusion from Table A4 is that, for the simple model of wage determination to fit Indonesian facts, either substitutability between capital and labor is quite high or there is 'enough' labor saving bias in the process of technical change. This conclusion is analogous to the one reached with the simpler one sector model. The advantage of Table A4 is that additional information (changes in sectoral price ratios) is brought to bear on the issue of fast growth with constant real wages.

Summary

35. The discussion so far can be summarized as follows. The aggregate representation in (6), based on full employment and marginal product pricing of labor, is compatible with fast output growth and constant wages for a large fraction of the labor force if (a) there is 'enough' labor saving bias in technical progress; (b) substitution between capital and labor is high; and (c) skills and physical capital are not strictly complementary. Given the limited and faulty data base available, each of these conditions places considerable demands on additional empirical work, to determine whether they occur in practice. Meanwhile, it is dangerous to use (6) for predictions on aggregate wage and employment trends in Indonesia. Also, because of its very strong implications for projections and policy (particularly shadow pricing of labor in public investment projects), the hypothesis in (6) does in fact need to be tested against some alternatives. One clear alternative would be to view factor markets, and the market for labor in particular, as adjusting towards equilibrium, rather than being in equilibrium, on average over a 10 to 15 year period of fast growth. This would imply that $ph_1 \neq h_2$, $h_1 \neq h_3$ over time and would place additional demands on the specification of adjustment dynamics, in practice. Another alternative would be the labor

^{1/} This point has been made by T. Bertrand. It figures also prominently in Williamson (1971) study of manufacturing in the Philippines, although his overall estimates of σ are less than unity.

surplus hypothesis, in which the focal point of interest is the nature of labor supply functions for high wage activities.

36. The implication of (6) for the shadow price of labor in public investment projects in rural Java is that such shadow wage is in fact the market wage, corrected for known distortions in markets for rice and nonlabor inputs. Depending upon these corrections, the shadow wage might be slightly higher or lower than the market wage, but nowhere near the 1:2 ratio currently used by the World Bank for projects in rural Java.

37. The implication of (6) for projections of wage and employment is that they should be based on changes in factor endowments and technological parameters. For example, to ask how much longer can employment in Javanese agriculture grow at 0.4% per year would lead to efforts to obtain detailed direct estimates of g_n , with proper translation of physical units of factors into efficiency units, including proper measures of labor flows and estimates of when land will become a limiting factor. The question of how income in agricultural areas is distributed across factors (or given asset distributions, across households) is a byproduct of (6), and it affects the projection only through its effect upon g_k . Similarly, to ask whether and when the wages of the unskilled (in agriculture and elsewhere) will increase leads again to a search for direct estimates of productive assets, including human capital, to be linked with wage changes through changes in (α, β, σ) plus the assumption of full employment.

38. This empirical work is useful. Also, for specific purposes, like explaining some stylized facts in rural labor markets in Java, partial models can be set up, in the spirit of (6), and used to explain the allocation of labor across activities and seasons, again assuming full employment. One such model ^{1/} is presented and discussed in Chapter 3, and it leads to questions about facts on preferential hiring and the existence of peak season excess supply of labor at the going rice wage. Such questions require direct observation of the village economy, (even to measure the length of the peak season). Yet the disaggregated models for the labor market inspired by (6) have the potential for explaining wage and employment variation across villages and over time, due to the different factors affecting the positions and the slopes of demand and supply schedules.

39. All of these, though, are subject to the assumption of full employment and equalization of the marginal product of labor across activities. There is no room, in these wage and employment projections, for open urban unemployment, or hidden unemployment in the countryside. Underemployment, in the context of (6), can only mean low productivity and low pay work. While this may suffice for some purposes (like consideration of shifts between underemployment and jobs in the "formal", "organized" or "modern" sector), it is insufficient to assess wage trends if the marginal product of labor is not equated across economic activities, on the average and over long periods of time.

^{1/} Due to T. Bertrand.

II. Surplus Labor

40. Economic development in successful Asian rice economies (Japan e.g. and Korea) is characterized by periods of transformation in the structure of output and employment of varying length and intensity, with roughly constant wages per worker in agriculture. This is followed by a period in which whose wages rise very fast, at rates that are about six to ten times the historical ones. Such a jump in the growth of real wages can be explained in terms of the surplus labor hypothesis, which states that, during the transformation, the supply of unskilled labor to capitalists is flat at the going wage paid by them, which in turn is about the hourly earnings of unskilled workers elsewhere in the economy. A capitalist

"is defined in the classical sense as man who hires labor and sells its output for a profit" (Lewis, 1972, p. 76).

41. The transformation ends when equation (3) or (6) in the previous section takes over: when unskilled labor is paid the same wage across all sectors of activity.

42. The relevance of the surplus labor hypothesis for wage and employment trends in Indonesia is this: if there exists surplus labor, wage differentials cannot be attributed to differences in skill or efficiency alone; the full employment assumption is unwarranted; the social cost of unskilled labor is not the market wage paid by capitalists, but the hourly earnings of unskilled workers in other activities; the time path of wages depends on the speed with which the surplus of labor is exhausted. Neither equation (3) or (6) would provide a theory of trends in wages and employment.

43. Like full employment, surplus labor is to be considered a working hypothesis subject to verification, both through direct observation and empirical testing. As a working hypothesis about Indonesian development, the first question to be answered is what is surplus labor and how to measure it. This is closely related to the question of whose labor supply is infinitely elastic and to whom.

44. In Java, the ratio of agricultural land to agricultural workers has been declining over the last 60 years, at least. In the late seventies, the very small average size holdings and a skewed size distribution of holdings were typical in Javanese villages where rice production was the main economic activity. In this context, the large Javanese farms depend primarily upon hired labor and sell rice for profit. Their farmers are therefore capitalists in the sense defined above.^{1/} The labor surplus hypothesis, applied to Java, implies that the landless and near landless are available for work in

^{1/} Some evidence is given in Kikuchi et. al. (1980): of the total labor input put in large farms, 80% is hired (p. 53), and it is supplied by landless workers and the near landless farmers, (p. 59). Small farmers, whose hired labor input in 42% of the total, hire each other out. Needless to say, large farms are only large by Javanese standards.

large rice fields in such numbers that, if all large farmers decided to increase employment suddenly, they could do so without upward pressure on the going rice wage. Do large farmers in fact pay a wage higher than the hourly earnings of the landless in alternative occupations, and if so why?

45. Observation shows that rice wages are not constant over villages or over time, except in an average trend sense. The accumulation of evidence on rice wages would permit an examination of the distribution of the "going rice wage" and a classification of villages by their pool of available labor for rice cultivation. Depending upon the extent of employment opportunities besides paddy, and the proportion of landless and near landless households, some villages will not have a pool of surplus labor, in the sense that it will not be possible to increase employment in large farms without increasing wages.

46. Suppose that the landless and near landless constitute the first component of the labor surplus pool. There is already some evidence on differential returns to unskilled labor, available from village studies. A working hypothesis on why should the differential arise and persist can be formulated as follows. A labor contract between a large farmer and a landless worker is not an isolated transaction in which both parties are expressing an unconstrained choice. If all such transactions taken together were to yield a market clearing wage below that which would be necessary for the landless households to survive throughout the year, a new argument appears in the utility (or profit) function of each large farmer: he is interested in the preservation of the village as a viable economic entity, and hence, in avoiding starvation by a sizable proportion of households. Out of this, a social contract may arise, yielding a distribution of rice output which does not maximize profits for the large farmer entering into each labor contract in isolation, but which is quite reasonable in terms of his extended utility function, because it gives each landless household enough share of a high productive activity to survive, and to till the land next year.

47. The next question is how do landless households use the rest of their available time. Income from rice cultivation is only a fraction of their total income. Besides sharing in rice output, they still devote long hours to activities at lower returns. The nature and pay of these activities has to be established from field work, but what is already known is enough to require a sharp distinction between idleness and surplus labor. To make ends meet, poor households may work about 5,700 hours per year (or 1,800 hours for every person 10 and older in the household) in income generating activities, including time spent in rice cultivation.^{1/} If this is so for a high proportion of poor households in Java, it is reasonable to say that poverty has already driven them to the point of zero leisure. The valuation of leisure from observed data becomes impossible, for those households. The working hypothesis on their labor supply schedules is then completed by putting their total income at subsistence level; by specifying a backward

^{1/} See Hart (1978), p. 124.

bending supply to low productivity work, conditional upon their income from rice; and by letting their supply curve for rice be infinitely elastic at the going wage. This is the hypothesis presented in Chapter 3.

48. The field work needed for direct observation of the surplus labor hypothesis applied to rural Java is the same as the evidence needed to assess rural wage prospects under full employment, and to examine the prospects for agricultural employment growth. The labor surplus hypothesis makes explicit the distinction between large farmers, as the main source of hired labor; and the small farmers. By presenting the evidence in those terms, and following the field work, it would be possible to formalize the concept of surplus labor into an explicit theory of wages and employment in rice cultivation. Equally important, it would be possible to classify villages by the nature of the demand for labor outside rice cultivation. As such demand increases, a perverse supply response should hold only limited conditions: with an income level such that leisure is positive, the supply of effort should become upward sloping for all activities, at some point.

49. The landless and near landless in Javanese villages are not the only component of the pool of surplus labor in Java. In the towns, firms as a whole could also increase their demand for unskilled workers and their employment, without an upward pressure on wages, if there is labor surplus. The link between such surplus and spare time is perhaps more apparent in urban areas:

"Nobody denies that in the overpopulated countries handicraft workers, petty traders, dock workers, domestic servants and casual workers have a lot of spare time on their hands and that most of them (except the domestic servants) would be glad to exchange extra work for extra income at the current rate," (Lewis, 1972, p. 81) ^{1/}

50. Formal alternatives to (3) and (6), incorporating flat supply curves for labor can be easily constructed. Precise answers on wage and employment trends under alternative assumptions about the excess supply of labor can be obtained. But those answers are of little value at the present time, as the remarks above illustrate. The reason for this is that the sectoral composition of output in (6) - or any disaggregation thereof - does not reflect the partition relevant to the surplus labor hypothesis namely that between economic activity to which labor is available at infinitely elastic supply, and the rest. In the Indonesian case it is particularly important to specify such partition. In 1977, 3/4 of all manufacturing employment was rural and half of it female. More than half of employment in construction was rural. In this situation, to identify the secondary sector as the one facing a flat labor supply curves is very misleading, as it is to identify the agricultural sector with traditional, noncapitalist forms of economic activity.

^{1/} For Lewis, India and Java are examples of very overpopulated economies, (1972, p. 82).

III. Conclusions

51. This Annex establishes the importance of treating full employment and surplus labor as competing hypotheses about the working of Indonesian labor market. Their implications for shadow pricing and the methods for wage and employment projections are vastly different. Fortunately, both hypotheses converge in the nature of the field work necessary to test them. Village studies giving detailed information about wages and the time allocation of rural households are relevant for both. Studies on the size distribution of firms in urban areas and the nature of the labor market for firms of different size are equally relevant. Only as a result of this field work will it be possible to interpret the growth in output and employment in tertiary activities. Only from such work will it be possible to begin to formulate answers to the larger questions of Indonesian development: how is the output of large farms being distributed; how are their profits used; what are the prospects for growth in industry and agriculture; and how will this growth affect living standards?

52. In this sense, a major suggestion of this report is that all of the on-going research on Indonesian growth and employment issues should take a wider view of how labor markets function, rather than being confined exclusively and rigidly to either a full employment or a labor surplus model. This report has emphasized a framework of segmentation and surplus labor, within which Indonesian labor markets not only work efficiently but are also "reasonably competitive".

REFERENCES

- Akino, M., "Land Infrastructure Improvement in Agricultural Development: The Japanese Case, 1900-1965," Economic Development and Cultural Change, 28, 1 (October, 1979), 97-117.
- Blumenthal, T., "Factor Proportions and Choice of Technology: The Japanese Experience," Economic Development and Cultural Change, 28, 3 (April, 1980), 547-559.
- Collier, W., "Declining Labor Absorption in Javanese Rice Production, Rural Dynamics Study N.2, Bogor.
- Collier, W., et. al., "Agricultural Technology and Institutional Change in Java," "Food Research Institutional Change in Java," Food Research Institute Series, XIII, 2, 1974, 170-194.
- De Bever, L., "The Role of the State in Early Japanese Growth," Unpublished Ph.D Dissertation, U. of Wisconsin, Madison, 1976, vii + 330 pp.
- Edmundson, W., "Land, Food and Work in Three Javanese Villages," Unpublished Ph.D. Dissertation, U. of Hawaii, 1972.
- Fei, J. C. H. and Ranis, G., Development of the Labor Surplus Economy: Theory and Policy, (Homewood, Ill: Irwin), 1964.
- Fei, J. C. H., and Ranis, G., "A Model of Growth and Employment in the Open Dualistic Economy: the Case of Korea", Journal of Development Studies, January 1974, 32-63.
- Ferguson, C. E., The Neoclassical Theory of Production and Distribution, (Cambridge, UK: Cambridge U. Press), 1969.
- Geertz, C., Agricultural Involution: The Process of Ecological Change in Indonesia (Berkeley: U. of California Press), 1966.
- Hansen, B. "Employment and Wages in Rural Egypt," American Economic Review, June 1969.
- Hart, G., "Labor Allocation Strategies in Rural Javanese Households," Unpublished Ph.D., Dissertation, Cornell U., 1978.
- Hayami, Y. and Kikuchi, M., "Asian Village Economy at a Crossroads: An Economic Approach to Institutional Change," (Baltimore: Johns Hopkins U. Press), 1982, xx + 275 pp.
- Hayami, Y. and Ruttan, V. W., Agricultural Development: An International Perspective, (Baltimore and London: The Johns Hopkins U. Press), 1971, xiv + 367 pp.

ANNEX B

Page 2

- Hayami, Y., et. al., A Century of Agricultural Growth in Japan: Its relevance to Asian Development, (Minneapolis and Tokyo: U. of Minnesota Press and U. of Tokyo Press), 1975, xvii + 248 pp.
- Hong, W., Factor Supply and Factor Intensity of Trade in Korea, (Seoul: KDI), 1976, xv + 236 pp.
- Hughes, G., "On Shadow Wages in Indonesia," Draft, World Bank, 1980.
- Hugo, G., "Circular Migration," Bulletin of Indonesian Economic Studies, 13(3), 1977.
- Husken, F., "Landlords, Sharecroppers and Agricultural Labourers: Changing Labor Relations in Rural Java," Journal of Contemporary Asia, 9, No. 3, 1979, 140-151.
- Indonesia, Population and Manpower Statistics, Labor Force Projections for Indonesia During Repelita III, Series K, No. 3, September 1978.
- Indonesia, BPS: Proyeksi Penduduk Indonesia, 1976-2001, VP78-06, June 1978.
- Ishikawa, S., Economic Development in Asian Perspective, (Tokyo: Kinokuniya Bookstore Co.), 1967, xix + 488 pp.
- Ishikawa, S., Labor Absorption in Asian Agriculture (ILO, Bangkok), 1978.
- Jones, G.W., "Sectoral Employment - Output Coefficients in Indonesia since 1961," Bulletin of Indonesian Economic Studies, XIV, 1 (March, 1978), 80-92.
- Jones, G. W., "Labour Force Developments since 1961," in Booth, A., and McCawley, P., (eds), The Economic Development of Indonesia, Oxford, Singapore, 1982.
- Jorgenson, D.W., "Testing Alternative Theories of the Development of a Dual Economy" in Adelman, I. and Thorbecke, E. (eds), The Theory and Design of Economic Development, (Baltimore: Johns Hopkins Press), 1966.
- Kabul, S., "The Income Distribution and Employment in Desa Surbarajo Pasuman," M. S. Thesis, Bogor, 1977.
- Kaneda, "Structural Change and Policy Response in Japanese Agriculture After the Land Reform," Economic Development and Cultural Change, 28, 3 (April, 1980), 469-486.
- Kikuchi, M., et. al., "Class Differentiation, Labor Employment and Income Distribution in a West Java Village," The Developing Economies XVIII (March 1980), 45-64.
- Kikuchi, M. "Changes in Rice Harvesting Systems in the Philippines and Indonesia: Village Structure and Choice of Contractual Arrangements," The Developing Economics, XIX, shift 8, 291-301.

- Korea, Economic Planning Board, Major Economic Indicators, 1959-70.
- Lewis, W. A., "Reflections on Unlimited Labor," in DiMarco, L.E., International Economics and Development, (New York: Academic Press), 1972, 75-96.
- Makali and Sri Hartoyo. "Perkembangan Tingkat Upah Buruh Tani di Pedesaan Java," Rural Dynamics Series No. 1 (June 1978).
- Manning, C.G., "Wage Differentials and Labor Market Segmentation in Indonesian Manufacturing," Unpublished Ph.D. Dissertation, ANU, 1979.
- Minami, R., "Population Migration Away from Agriculture in Japan," Economic Development and Cultural Change, 15, 2 (January 1967), 183-201.
- Minami, R., "The Turning Point in the Japanese Economy," Quarterly Journal of Economics, LXXXII, 3 (August, 1968), 380-402.
- Minami, R., and Ono, A., "Behavior of Income Shares in a Labor Surplus Economy: Japan's Experience," Economic Development and Cultural Change, 29, 2 (January 1981), 309-324.
- Ohkawa, K., Johnston, B.F., and Kaneda, H., Agriculture and Economic Growth: Japan's Experience, (Princeton and Tokyo: Princeton U. Press and London U. Press), 1973, xvi + 327 pp.
- Papanek, G. F., "Real Wages Growth and Inflation in Pakistan, India, Bangladesh, Indonesia," Boston U. Discussion Papers n.29 and 30, 1979.
- Papanek, G. F., "The Effect of Economic Growth and Inflation on Workers' Income," Ch. in Papanek, G. F., (ed) The Indonesian Economy, (Boston U.), 1980.
- Penny, D. H. and Singaribum, M., "Population and Poverty in Rural Java," mimeo, 1973 Cornell U., Ithaca, N.Y.
- Rozany, N.A., et. al., "Report III, Analysis of Rural Labor Utilization in West Java, (Bogor 1978).
- Rudra, A., "Local Power and Farm Level Decision Making" (mimeo), Viswavarati U., West Bengal.
- Sawada, S., "Technological Change in Japanese Agriculture: A Long Term Analysis," Ch. 5 in Ohkawa, K., Johnston, B. F. and Kaneda, H. (eds). Agriculture and Economic Growth: Japan's Experience, 1970.
- Sawit, M. H., et al., "Rural Dynamics Study Report 1977/78," Bogor 1979.
- Sinaga, R. S., "Implications of Agricultural Mechanization for Employment and Income Distribution: A Case Study from Indramayu, West Java," Rural Dynamic Series No. 2 (April 1978), 15 pp.

- Stoler, A. "Rice Harvesting in Kali Loro: Aspects of Class and Labor Relations in Rural Java," American Ethnologist, 4, 4 (Nov. 1977).
- Taira, K., "Growth, Trends and Swings in Japanese Agriculture and Industry," Economic Development and Cultural Change, 24, 2 (January 1976), 423-436.
- White, B., "Population, Involution and Employment in Rural Java," Development and Change, (1976), 267-290.
- White, B., "Political Aspects of Poverty, Income Distribution and Their Measurement," Rural Dynamics Series No. 5, (October 1978).
- White, B., and Makali, "Wage Labor and Wage Relations in Javanese Agriculture: Some Preliminary Notes from the Agro-Economic Survey," (mimeo), The Hague, 1979.
- White, B., "Production and Reproduction in a Javanese Village," Unpublished Ph.D. Dissertation, Columbia U., 1976.
- White, B., "Influence of Agricultural Technology, Cropping Systems and Agrarian Structure on the Distribution of Real Increases," (mimeo), Agricultural Development Council (February 15, 1980).
- White, B., "Influence of Agricultural Technology, Cropping Systems and Agrarian Structure in the Distribution of Land Incomes", mimeo, Agricultural Development Council (Feb. 15, 1980)
- Williamson, J. G., "Capital Accumulation. Labor Saving and Labor Absorption Once More," Quarterly Journal of Economics, LXXXV, 1 (February 1971), 40-65.
- World Bank, Indonesia: Growth Patterns, Social Progress and Development Prospects, Report No. 2093-IND (Feb. 20, 1979).
- World Bank, Indonesia: Long-Run Development and Short-Run Adjustment, Report No. 2788-IND, (Feb. 20, 1980).
- World Bank, Employment and Income Distribution in Indonesia, (July 1980).
- World Bank, Indonesia: Development Prospects and Policy Options, Report No. 3307-IND, April 6, 1981.
- World Bank, Indonesia: Policies for Growth with Lower Oil Prices, Report No. 4279-IND, May 12, 1983
- World Bank, Indonesia: Policies and Prospects for Economic Growth and Transformation, Report No. 5066-IND, April 26, 1984, p.44.

World Bank Publications of Related Interest

Bangladesh: Current Trends and Development Issues

Carl A. B. Jayarajah, chief of mission, and others

Provides an update on current development with emphasis on rural and industrial development and domestic resource mobilization and suggests that more funds should be channeled into agriculture, education, health, and population control.

1979. 126 pages (including map, annexes, appendix).

Stock No. BK 9156. \$5.

NEW

Belize: Economic Report

Analyzes current economic policies, development issues, and the public sector investment program. Evaluates major sectoral issues: agriculture, transport, fisheries, social infrastructure, tourism, and electric power. Notes that Belize has the physical resources, but lacks the financial and human resources, to develop the agriculture and tourism sectors. Stresses the importance of export-oriented activities to promote development.

1984. 154 pages.

Stock No. BK 0308. \$5.

NEW

Bhutan: Development in a Himalayan Kingdom

This is a landmark World Bank report on the Kingdom of Bhutan. Provides an overview of the economy. Analyzes key sectors: agriculture, forestry, industry, tourism, energy, transport, human resources, and communications. Examines current stage of development. Reviews development planning (1961-1987) and identifies constraints to growth—manpower, physical, material, financial—and the role of external assistance. Outlines strategies for economic growth.

1983. 177 pages.

Stock No. BK 0306. \$5.

Brazil: A Review of Agricultural Policies

Reviews agricultural performance and policies in Brazil in recent decades. Particular attention is given to rural credit, which has been the major tool used by the government to promote agricultural growth. Offers recommendations for policy changes.

1982. 259 pages (including annex, statistical appendix).

ISBN 0-8213-0095-4. Stock No. BK 0095. \$10.

NEW

Brazil: Country Economic Memorandum

Fred Levy, Lorene Yap, and others

Provides a macroeconomic overview of Brazil's economy during the 1970s. Looks at the macroeconomics of the federal public sector, labor market developments and wage policy, and the changing patterns of poverty and income inequality.

1984. 400 pages.

ISBN 0-8213-0330-9. Stock No. BK 0330. \$15.

Brazil: Human Resources Special Report

Peter T. Knight, mission chief, Ricardo J. Moran, deputy chief, and others

Volume I discusses the dominant patterns of Brazil's demographic history and the outlook through the year 2000. Concludes that, although the Brazilian economy has grown twice as fast as the population, the growth process has left large differences in indices of economic welfare and basic needs satisfaction among various population groups; that policies to increase productivity outside the modern sector of

the economy will be crucial to achieving more equitable socioeconomic development; and that accelerating progress in the provision of basic services will require not only increased financial backing but considerable efforts to overcome institutional problems.

Volume II examines important sectors: health, nutrition, and education. Provides information about general health conditions, malnutrition, and emerging policy issues.

1979. 560 pages (including map, 4 annexes).

ISBN 0-8213-9119-4. Stock No. BK 9119. \$20.

NEW

Brazil: Industrial Policies and Manufactured Exports

Discusses Brazil's trade policy on manufactured goods and its impact on industrial efficiency and growth of manufactured exports. Describes industrial development in the country during the past decade. Presents an overview of Brazilian policy on technology, including development of human resources, basic regulation and development, industrial technology, and technology transfer.

1983. 308 pages (including 4 annexes).

ISBN 0-8213-0156-X. Stock No. BK 0156. \$10.

Brazil: Integrated Development of the Northwest Frontier

Dennis J. Mahar, chief of mission, and others

Points out that the Brazilian northwest has the potential to become an important agricultural and timber-producing region, as well as a place where migrants from other parts of the country may be productively and permanently settled on small-scale farms. Thus, economic development of the region is currently one of the high priorities of the Brazilian government. Outlines development plans for the area; examines population, migration, and social indicators; and considers issues and recommendations related to the identification and protection of Indian lands, land settlement, and environmental concerns.

1981. 107 pages (including annex).

Stock No. BK 9140. \$5.

The Commonwealth Caribbean: The Integration Experience

Sidney E. Chernick and others
Broad issues of regional integration

with special attention paid to unemployment and mechanisms crucial to the success of such instruments as the Caribbean Free Trade Association and the Caribbean Common Market.

The Johns Hopkins University Press, 1978. 536 pages (including appendixes, statistical appendix, index).

LC 77-17246. ISBN 0-8018-2089-8, Stock No. JH 2089, \$30 hardcover; ISBN 0-8018-2090-1, Stock No. JH 2090, \$10.95 paperback.

Chile: An Economy in Transition

Fred D. Levy, chief of mission, and others

Traces the development of the Chilean economy since the Great Depression of the 1930s and emphasizes economic policies and events of the 1970s and their effects on Chile's economic prospects. Finds that the ultimate success of the government's policies depends on its ability to demonstrate that efficient resource allocation and accelerated growth can be made consistent with an equitable distribution of income and the relief of absolute poverty.

1980. 601 pages (including map, 2 appendixes, 96 tables, glossary).

Stock No. BK 9124. \$20.

China: Socialist Economic Development

Vol. I. The Economy, Statistical System, and Basic Data (408 pages, ISBN 0-8213-0245-0, Stock No. BK 0245, \$20.)

Vol. II. The Economic Sectors: Agriculture, Industry, Energy, Transport, and External Trade and Finance (476 pages, ISBN 0-8213-0246-9, Stock No. BK 0246, \$20.)

Vol. III The Social Sectors: Population, Health, Nutrition, and Education (128 pages, ISBN 0-8213-0247-7, Stock No. BK 0247, \$10.)

The Bank's first Country Study covering China raises the curtain on Chinese economic progress since 1949 and on its prospects for the next generation. It forecasts a substantial increase in the living standards of its people—if the country's immense wealth of human talents effort and discipline are marshaled effectively. But, the report warns, China is entering a difficult period. A successful transition requires policies that increase the efficiency with which all resources are used.

Everyone with interests in development and trade will want a personal set of this three-volume study. Order the three-volume set (Stock No.

BK 9168) for \$40 and save \$10 over the cost of volumes ordered separately.

Colombia: Economic Development and Policy under Changing Conditions

Jose B. Sokol, chief of mission, and others

Provides a survey and analysis of Colombia's developmental experience and its principal features. Focuses on demographic trends, employment, wages, price stabilization, financial policies, public expenditure, agricultural development, and issues and policies in the manufacturing industry. Examines recent economic developments and outlook for the future.

1984. 320 pages.

ISBN 0-8213-0329-5. Stock No. BK 0329. \$15.

The Comoros: Current Economic Situation and Prospects

Updates an earlier World Bank economic report on this densely populated archipelago of four islands in the Mozambique channel. Describes the painful path to self-sufficiency since The Comoros declared their independence in 1975. Recovery from revolutionary changes is underway but the East African nation remains one of the world's poorest. Forecasts continuing need for outside financial and technical assistance.

1983. 180 pages.

ISBN 0-8213-0157-8. Stock No. BK 0157. \$5.

The Comoros: Problems and Prospects of a Small, Island Economy

Pierre Landell-Mills, chief of mission, and others

Describes the principal features of the economy and summarizes the main sectoral and structural constraints to development. Notes that, in view of its extreme poverty, the Comoros will require a substantial inflow of resources and technical assistance in the future. A statistical annex provides a comprehensive compilation of social and economic data not otherwise available.

1979. 184 pages (including 5 maps, 3 annexes). English, French, and Spanish.

Stock Nos. BK 9115 (English), BK 9158 (French), BK 9159 (Spanish). \$5.

Prices subject to change without notice and may vary by country.

Ecuador: Development Problems and Prospects

Alexander G. Nowicki, chief of mission, and others

Reviews the country's main socio-economic sectors and focuses on the traditional quality of Ecuador's economy which makes it difficult to bring the benefits of modern development to a majority of the poor. Discusses the expected shortfall in foreign exchange and fiscal revenues compared to the country's needs, which can be alleviated if aided by a vigorous effort in petroleum exploration and a revision of the domestic price policy for petroleum derivatives.

1979. 660 pages (including 4 technical annexes, statistical appendix). English and Spanish.

Stock Nos. BK 9160 (English) and BK 9161 (Spanish). \$20.

Egypt: Economic Management in a Period of Transition

Khalid Ikram and others

The most detailed examination of the Egyptian economy to appear since the 1960s and the first to lay heavy emphasis on economic management and policies.

The Johns Hopkins University Press, 1980. 464 pages (including statistical appendix, index).

LC 80-552. ISBN 0-8018-2418-4, Stock No. JH 2418, \$32.50 hardcover; ISBN 0-8018-2419-2, Stock No. JH 2419, \$11.50 paperback.

The Gambia: Basic Needs in The Gambia

Heinz B. Bachmann, mission chief and coordinating author, Rene Vandendries, and Ann MacNamara

This report outlines a basic needs strategy designed to guide the Gambian government and the World Bank in making policy decisions that will increase the chances of base survival for that country's people. The Gambia is extremely poor; the rural population is worse off than those living in urban areas; and women and children, who make up 30 to 40 percent of the population, are the most disadvantaged group and suffer most from poor health and malnutrition. A strategy is proposed that is aimed at improving the health and nutritional status of pregnant women and lactating mothers by combating endemic disease, improving the supply and distribution of food, improving eating habits, and supplying clean water in rural areas.

1981. 153 pages (including 2 annexes). Stock No. BK 9167. \$5.

NEW

Ghana: Policies and Program for Adjustment

Ishrat Husain, chief of mission, and others

Analyzes Ghana's economy since 1970. Outlines policies and programs for adjustment. Focuses on growth and efficiency, the external sector, domestic resources, and human resources and social development. A detailed statistical appendix provides background papers that review major sectors, including agriculture, mining, energy, manufacturing, population, and transport.

1984. 224 pages.

ISBN 0-8213-0358-9. Stock No. BK 0358. \$10.

Guatemala: Economic and Social Position and Prospects

John R. Hansen, chief of mission, and others

Concludes that, due to current problems due to the fall in coffee prices, the economy is financially sound and has good future growth prospects.

1978. 181 pages (including statistical annex, map annex).

Stock No. BK 9150. \$5.

NEW

Hungary: Economic Developments and Reforms

The World Bank's first analysis of the economy of the Hungarian People's Republic. Examines aspects of the economic structure of Hungary and the nature and evolution of its economic management system. Reviews principal sectors — agriculture, industry, energy. Discusses policy issues and indicates medium-term perspectives for the economy.

1983. 296 pages.

Stock No. BK 0307. \$10.

India: Economic Issues in the Power Sector

C. Taylor

Reviewing the country's demand for electricity, points out that economic growth in India depends critically on the development of the power sector and suggests that public funds be supplemented by increased tariffs to augment the internal cash generation of the State Electricity Boards, as well as provide for a more efficient use of power resources.

1979. 178 pages (including map, 3 annexes, 3 graphs, organization chart).

Stock No. BK 9122. \$5.

Indonesia: Employment and Income Distribution in Indonesia

Mark Leiserson, mission chief and coordinating author

Examines demographic, employment, wage, and income trends; analyzes the functioning of rural and urban labor markets; and formulates employment and income policy issues that are important in addressing Indonesia's longer-term development strategy.

1980. 198 pages (including appendix, 2 annexes).

Stock No. BK 9132. \$5.

Ivory Coast: The Challenge of Success

Bastiaan A. den Tuinder and others

Investigates the so-called "Ivorian Miracle" and ways to maintain growth while reducing or eliminating gaps in income levels and opportunities for advancement.

The Johns Hopkins University Press, 1978. 464 pages (including appendixes, statistical appendix, index).

LC 76-47395. ISBN 0-8018-1939-3, Stock No. JH 1939, \$28.50 hardcover; ISBN 0-8018-2099-5, Stock No. JH 2099, \$12.95 paperback.

Kenya: Population and Development

Rashid Faruqee, chief of mission, and others

States that fertility in Kenya is high, appears to be increasing, and shows considerable variation by region, tribal group, and socioeconomic status. Recognizes that rapid population growth is resulting in the need for increased public expenditure for basic needs services, such as education, health, water, and housing. Argues that a rapid decline in fertility will facilitate the implementation of the government's commitment to the provision of basic needs, but that the satisfaction of basic needs, such as education, is an important instrument for securing lower fertility. Explores the socioeconomic determinants of fertility, the current status of the country's family planning program, the social status of women and fertility, and makes recommendations for a comprehensive population policy.

1980. 226 pages (including bibliography).

Stock No. BK 9134. \$10.

Korea: Policy Issues for Long-Term Development

Parvez Hasan and D. C. Rao

Can Korea's growth rate continue with greater considerations of equity, structural changes to maintain the comparative advantages of Korean exports, the new roles for government in response to changing domestic and external conditions?

The Johns Hopkins University Press, 1979. 558 pages (including map, appendixes, index).

LC 78-21399. ISBN 0-8018-2228-9, Stock No. JH 2228, \$35 hardcover; ISBN 0-8018-2229-7, Stock No. JH 2229, \$15 paperback.

Madagascar: Recent Economic Development and Future Prospects

P.C. Joshi, mission chief, and others

Examines, in the light of recent economic developments and the government's objectives, the strategy underlying both the 1978-80 Development Plan and those plans to be implemented subsequently. Points out that the overall performance of the economy has been disappointing in recent years, but that the government has been able to focus on certain important social objectives; the satisfaction of basic needs, reduction of urban-rural income disparities, and the protection of living standards of low-income urban groups. Proposes a policy framework characterized by increased reliance on external assistance, vigorous export promotion, and a general relaxation of economic controls, and considers the feasibility and appropriateness of this strategy in relation to the resources of the economy and long-term development goals of the country.

1980. 307 pages (including 6 annexes, 4 appendixes). English and French.

Stock Nos. BK 9157 (English) and BK 9164 (French). \$15.

Malaysia: Growth and Equity in a Multiracial Society

Kevin Young, Willem Bussink, and Parvez Hasan

Rapid growth is essential to achieving Malaysia's economic and social objectives; favorable resource prospects are conducive to such growth.

The Johns Hopkins University Press, 1980. 364 pages (including appendixes, index).

LC 79-3677. ISBN 0-8018-2384-6, Stock No. JH 2384, \$25 hardcover; ISBN 0-8018-2385-4, Stock No. JH 2385, \$12.95 paperback.

The Maldives: An Introductory Economic Report

K. Sarwar Lateef, chief of mission, and others

Provides a brief introduction to the Maldives, a nation that is among the twenty poorest countries in the world, and points out that the fisheries sector accounts for 44 percent of employment and nearly all visible export earnings and discusses other important sectors—agriculture, tourism, cottage industries, health, and education. Outlines the development priorities for the country in the 1980s and the role of external assistance.

1980. 178 pages (including 5 annexes, statistical appendix).

Stock No. BK 9139. \$5.

Mauritius. Economic Memorandum: Recent Developments and Prospects

Michel J. C. Devaux, mission chief, and others

Report of a November-December 1981 mission to review the economic situation of Mauritius and to assess progress under the structural adjustment loan approved by the World Bank in 1981.

1983. 122 pages.

ISBN 0-8213-0122-5. Stock No. BK 0122. \$5.

Morocco: Economic and Social Development Report

Christian Merat, coordinating author, and others

This study examines the growth and structural changes the Moroccan economy has experienced during the ten-year period, 1968-77. It seeks to determine the results that can be expected from the annual plans of financial adjustment that dominate the period 1978-80 and looks ahead to the overall prospects for the economy during the period 1981-90. Considers growth problems at the sector level and outlines the general employment situation and the social development strategy the country is pursuing.

1981. 454 pages (including statistical appendix). English and French.

Stock Nos. BK 9165 (English) and BK 9166 (French). \$20.

Nepal: Development Performance and Prospects

Yukon Huang, chief of mission, and others

Reviews Nepal's achievements during the Fifth Development Plan and its strategy options for the Sixth Plan for

key sectors such as agriculture, industry, tourism, energy, and transportation, as well as human resource development.

1979. 134 pages (including map, 2 annexes, statistical appendix).

Stock No. BK 9123. \$5.

Papua New Guinea: Its Economic Situation and Prospects for Development

George B. Baldwin and others

Assesses prospects for increasing economic self-reliance and financial creditworthiness by developing considerable natural resources.

The Johns Hopkins University Press, 1978. 38 pages (including appendixes, statistical appendix, bibliography).

LC 77-17242. ISBN 0-8018-2091-X, Stock No. JH 2091, \$6.50 paperback.

Papua New Guinea: Selected Development Issues

Alice Galenson, chief of mission, and others

This report constitutes part of a continuing dialogue between the World Bank and the government of Papua New Guinea on a wide range of economic and sector issues. It focuses on a few specific areas that were agreed to be among the most important for the country's development during the 1980s. Points out that the major goal facing the country in the 1980s will be to provide rising incomes for its people and productive livelihood for its growing labor force. Discusses, in particular, the employment, agriculture, forestry, fisheries, and industry sectors.

280 pages (including 4 annexes).

Stock No. BK 0096. \$10.

Paraguay: Regional Development in Eastern Paraguay

Alfredo Gutierrez, chief of mission, and others

Reviews recent economic developments and provides a framework for policy actions and investment projects designed to make maximum use of development possibilities, and suggests the need to coordinate public-sector activities in a geographic and sectoral dimension to exploit the eastern region's natural resources.

1978. 58 pages (including maps, statistical appendix). English.

Stock No. BK 9103 (English) and BK 9152 (Spanish). \$3.

Prices subject to change without notice and may vary by country.

The Philippines: Housing Finance

Madhusudan Joshi, mission chief, and others

Reports the findings of a 1981 study requested by the government of the Philippines focusing on resource mobilization and its macroeconomic implications, the development of appropriate institutions and instruments, and access to housing finance.

1983. 137 pages (including appendices).

ISBN 0-8213-0108-X. Stock No. BK 0108. \$5.

Philippines: Industrial Development Strategy and Policies

Barend A. de Vries, chief of mission, and others

Outlines the country's industrial development strategy, its major objectives, and industrial investment priorities and determines that the nontraditional manufactured export drive should continue with increased participation by industries, firms, and regions and that policies for the home industries should be reoriented toward better use of capital and domestic resources and more employment creation.

1980. 310 pages (including statistical appendix, 9 annexes).

Stock No. BK 9131. \$15.

Portugal: Agricultural Sector Survey

Jacques Kozub, chief of mission, and others

Analyzes the main issues of agricultural development and identifies investor needs for future World Bank consideration.

1978. 328 pages (including 2 appendixes, 10 annexes, maps).

Stock No. BK 9105. \$15.

Portugal: Current and Prospective Economic Trends

Basil Kavalsky, chief of mission, and Surendra Agarwal

Discusses Portugal's difficult transition after the revolution of 1974/75 and notes that the country has a sound economic base, but will have to come to terms with the serious unemployment problem, increase investment and output in export-oriented manufacturing, and improve agricultural productivity.

1978. 58 pages (including statistical appendix, map).

Stock No. BK 9106. \$3.

Romania: The Industrialization of an Agrarian Economy under Socialist Planning

Andreas C. Tsantis and Roy Pepper

The first comprehensive study of the Romanian economy, the study contains a data base of the economy and describes the planning and management system.

The Johns Hopkins University Press, 1979. 742 pages (including maps, appendixes, bibliography).

LC 79-84315. ISBN 0-8018-2269-6, Stock No. JH 2269, \$35 hardcover; ISBN 0-8018-2262-9, Stock No. JH 2262, \$15 paperback.

Seychelles: Economic Memorandum

Robert Maubouche and Naimeh Hadjitarkhani

Traces the development of Seychelles' economy from its primary dependence on the export of copra and cinnamon to service economy with tourism as its major industry. Concludes that the country's management capability is impressive and its development strategy well designed, but that it is likely to be confronted with financial constraints in the near future, and its investment program will require increased domestic efforts, as well as substantial levels of external capital aid.

1980. 73 pages (including statistical appendix).

Stock No. BK 9133. \$3.

Thailand: Income Growth and Poverty Alleviation

John Shilling, chief of mission, and others

Synthesizes the results of four special studies on poverty-related issues and discusses some of the determinants of poverty, the impact of socioeconomic and political factors on the poor, and the relationship between basic needs and poverty. Formulates guidelines for policies aimed at alleviating poverty and promoting equitable growth.

Companion paper to *Thailand: Toward a Development Strategy of Full Participation*, March 1980.

1980. 64 pages (including 2 annexes, maps).

Stock No. BK 9135. \$3.

Thailand: Industrial Development Strategy in Thailand

Bela Balassa, chief of mission, and others

Notes that the country had an outstanding economic record during the postwar period, especially between 1960 and 1973, but points out that there is a slowdown in the growth of Thai exports that will have a negative effect on the economy. Examines the prospects for future exports of processed food and manufactured goods and analyzes the country's comparative advantage in these products. Considers the need for the economic evaluation of large government-sponsored projects; examines measures of import protection and export promotion schemes and questions relating to regional development. Provides recommendations for a coherent industrial development strategy for the country that is aimed at increasing industrial employment, expanding small and

medium-sized firms, and improving the living standards of the poor.

1980. 69 pages.

Stock No. BK 9155. \$3.

NEW

Thailand: Rural Growth and Employment

Examines the high rate of economic growth in Thailand with respect to agricultural growth. Concludes that agricultural growth has a great effect on rural development. Supports development of programs to alleviate the pockets of rural poverty. Discusses supply-side factors in rural nonfarm activities and the effect of industrial policies on provincial manufacturing.

1983. 212 pages (including appendixes). ISBN 0-8213-0203-5. Stock No. BK 0203. \$10.

Thailand: Toward a Development Strategy of Full Participation

E.R. Lim, chief of mission, John Shilling, deputy chief, and others

Shows that rapid and sustained growth has helped a substantial proportion of the population, but that, to a large extent, the rural population has not benefited. Stresses that the country should not follow a type of "trickle down" development strategy, but should focus on raising the productivity and incomes of the poorest farmers. This strategy would be a logical continuation of the economic change that began in the middle of the 19th century, with development based primarily on indigenous capital and skills and the gradual assimilation of foreign technology.

1980. 246 pages (including statistical appendix).

Stock No. BK 9125. \$10.

Turkey: Industrialization and Trade Strategy

Bela Balassa, mission chief and principal author

Reports the findings of a special economic mission that visited Turkey in May-June 1981. Includes production incentives, financing of economic activity, taxation and investment incentives, industrial development and exports, state economic enterprises in manufacturing agriculture development and exports, and tourism. Concludes with policy recommendations.

1983. vi + 455 pages (including appendixes and statistical tables)

ISBN: 0-8213-0046-6. Stock No. BK 0046. \$20.

Turkey: Policies and Prospects for Growth

Vinod Dubey, mission chief, Shakil Faruqi, deputy mission chief, and others

States that overall economic growth during the 1960s and most of the 1970s was good compared with other developing countries. Concludes, however, that the sharp increase in oil prices had an unfavorable impact on the country and that resumption of sustainable growth depends on the adoption of an export-oriented strategy; on policies aimed at increasing domestic savings and at keeping aggregate demand for resources in line with aggregate supply; and on the support for these policies by various donors and the financial community.

1980. 347 pages (including 6 appendixes, statistical annex).

Stock No. BK 9151. \$15.

Uganda: Country Economic Memorandum

Mark Baird, mission leader, and others

This is the first economic report prepared by the World Bank on Uganda since 1969. It reviews events prior to the 1978-79 war and developments since the war, including the government's new financial program. Outlines the priority areas for further action and the implications of the balance-of-payments outlook for aid requirements. A more detailed review of the problems and issues in five major sectors—agriculture, industry, transport, energy, and education—is also discussed.

1982. 166 pages (including statistical appendix).

ISBN 0-8213-0027-X. Stock No. BK 0027. \$5.

Yemen Arab Republic: Development of a Traditional Economy

Otto Maiss, chief of mission, and others

Outlines the far-reaching changes in the socioeconomic and political structure of the Yemen Arab Republic since the 1962 revolution and discusses major development issues of the late 1970s and the 1980s.

1979. 333 pages (including 3 maps, 7 annexes, statistical appendix, selected bibliography).

Stock No. BK 9109. \$15.

Prices subject to change without notice and may vary by country.

NEW

Yugoslavia: Adjustment Policies and Development Perspectives

Reviews Yugoslavia's adjustment during the strenuous economic period of 1976-80. Based on the findings of a World Bank economic mission to Yugoslavia in 1981, this report is especially useful to economists, country planners, and those interested in economic trends and institutional change.

The first section of the report deals with issues of adjustment strategy and policy across the economy. The second part explores issues in agriculture, industry, employment, and regional policy. Includes more than 100 tables of statistics from 1965 through estimates for 1985.

1983. 464 pages.

ISBN 0-8213-0189-6. Stock No. BK 0189. \$20.

Yugoslavia: Self-Management Socialism and the Challenges of Development

Martin Schrenk, Cyrus Ardaian, and Nawal A. El Tatawy

Describes major development issues and the overall performance of the economy, showing that the new economic framework of the 1970s strengthens decisionmaking at the lowest microeconomic level and at the same time allows greater coordination of economic activity by extending self-management principles to the macroeconomic level.

The Johns Hopkins University Press, 1979. 410 pages (including map, appendix, glossary, index).

LC 79-84316. ISBN 0-8018-2263-7, Stock No. JH 2263, \$27.50 hardcover; ISBN 0-8018-2278-5, Stock No. JH 2278, \$12.95 paperback.

Zaire: Current Economic Situation and Constraints

Bension Varon, chief of mission, and others

Presents an integrated analysis of the difficulties experienced by the Zairian economy between 1975 and the first half of 1979 and suggests that the country needs to revamp its institutions and its system of incentives and adopt policies that will lay the foundation for a development pattern that will render it less vulnerable to changes in the world economy.

1980. 196 pages (including map, annex, statistical appendix). English and French. Stock Nos. BK 9128 (English) and BK 9154 (French). \$5.

Distributors of World Bank Publications

ARGENTINA

Carlos Hirsch, SRL
Attn: Ms. Monica Bustos
Florida 165 4° piso
Galeria Guemes
Buenos Aires 1307

AUSTRALIA, PAPUA NEW GUINEA, FIJI, SOLOMON ISLANDS, WESTERN SAMOA, AND VANUATU

The Australian Financial Review
Information Service (AFRIS)
Attn: Mr. David Jamieson
235-243 Jones Street
Broadway
Sydney, NSW 20001

BELGIUM

Publications des Nations Unies
Attn: Mr. Jean de Lannoy
av. du Roi 202
1060 Brussels

CANADA

Le Diffuseur
Attn: Mrs. Suzanne Vermette
C.P. 85, Boucherville J4B 5E6
Quebec

COSTA RICA

Libreria Trejos
Attn: Mr. Hugo Chamberlain
Calle 11-13, Av. Fernandez Guell
San Jose

DENMARK

Sanfundslitteratur
Attn: Mr. Wilfried Roloff
Rosenderns Alle 11
DK-1970 Copenhagen V.

EGYPT, Arab Republic of

Al Ahram
Al Galaa Street
Cairo

FINLAND

Akateeminen Kirjakauppa
Attn: Mr. Kari Litmanen
Keskuskatu 1, SF-00100
Helsinki 10

FRANCE

World Bank Publications
66, avenue d'Iéna
75116 Paris

GERMANY, Federal Republic of

UNO-Verlag
Attn: Mr. Joachim Krause
Simrockstrasse 23
D-5300 Bonn 1

HONG KONG, MACAU

Asia 2000 Ltd.
Attn: Ms. Gretchen Wearing Smith
6 Fl., 146 Prince Edward Road
Kowloon

INDIA

UBS Publishers' Distributors Ltd.
Attn: Mr. D.P. Veer
5 Ansari Road, Post Box 7015
New Delhi 110002
(Branch offices in Bombay, Bangalore,
Kanpur, Calcutta, and Madras)

INDONESIA

Pt. Indira Limited
Attn: Mr. Bambang Wahvudi
Jl. Dr. Sam Ratulangi No. 37
Jakarta Pusat

IRELAND

IDC Publishers
Attn: Mr. James Booth
12 North Frederick Street
Dublin 1

ITALY

Licosa Commissionaria Sansoni SPA

Attn: Mr. Giancarlo Bigazzi
Via Lamarmora 45
50121
Florence

JAPAN

Eastern Book Service
Attn: Mr. Terumasa Hirano
37-3, Hongo 3-Chome, Bunkyo-ku 113
Tokyo

KENYA

Africa Book Services (E.A.) Ltd.
Attn: Mr. M.B. Dar
P.O. Box 45245
Nairobi

KOREA, REPUBLIC OF

Pan Korea Book Corporation
Attn: Mr. Yoon-Sun Kim
P.O. Box 101, Kwanghwamun
Seoul

MALAYSIA

University of Malaya Cooperative
Bookshop Ltd.
Attn: Mr. Mohammed Fahim Htj
Yacob
P.O. Box 1127, Jalan Pantai Baru
Kuala Lumpur

MEXICO

INFOTEC
Attn: Mr. Jorge Cepeda
San Lorenzo 153-11, Col. del Valle,
Deleg. Benito Juarez
03100 Mexico, D.F.

MIDDLE EAST

Middle East Marketing Research
Bureau
Attn: Mr. George Vassilou
Mitsis Bldg. 3
Makarios III Avenue
Nicosia
Cyprus
(Branch offices in Bahrain, Greece,
Morocco, Kuwait, United Arab
Emirates, Jordan)

NETHERLANDS

MBE BV
Attn: Mr. Gerhard van Bussell
Noorderwal 38,
7241 BL Lochem

NORWAY

Johan Grundt Tanum A.S.
Attn: Ms. Randi Mikkjelborg
P.O. Box 1177 Sentrum
Oslo 1

PANAMA

Ediciones Libreria Cultural Panamena
Attn: Mr. Luis Fernandez Fraguera R.
Av. 7, Espana 16
Panama Zone 1

PHILIPPINES

National Book Store
Attn: Mrs. Socorro C. Ramos
701 Rizal Avenue
Manila

PORTUGAL

Libreria Portugal
Attn: Mr. Antonio Alves Martins
Rua Do Carmo 70-74
1200
Lisbon

SAUDI ARABIA

Janir Book Store
Attn: Mr. Akram Al-Agil
P.O. Box 3196
Riyadh

SINGAPORE, TAIWAN, BURMA

Information Publications Private, Ltd.
Attn: Ms. Janet David
02-06 1st Floor, Pei-Fu Industrial
Building
24 New Industrial Road
Singapore

SPAIN

Mundi-Prensa Libros, S.A.

Attn: Mr. J.M. Hernandez
Castello 37
Madrid

SRI LANKA AND THE MALDIVES

Lake House Bookshop
Attn: Mr. Victor Walatara
41 Wad Ramanayake Mawatha
Colombo 2

SWEDEN

ABCE Fritzes Kungl. Hovbokhandel
Attn: Mr. Eide Segerback
Regeringsgatan 12, Box 16356
S-103 27 Stockholm

SWITZERLAND

Librairie Pavot
Attn: Mr. Henri de Perrot
6, rue Grenus
1211 Geneva

TANZANIA

Oxford University Press
Attn: Mr. Anthony Theobald
Maktaba Road, P.O. Box 5299
Dar es Salaam

THAILAND

Central Department Store, Head Office
Attn: Mrs. Ratana
306 Silom Road
Bangkok

Thailand Management Association
Attn: Mrs. Sunan
308 Silom Road
Bangkok

TUNISIA

Société Tunisienne de Diffusion
Attn: Mr. Slaheddine Ben Hamida
5 Avenue de Carthage
Tunis

TURKEY

Haset Kitapevi A.S.
Attn: Mr. Izzet Izerel
469, Istiklal Caddesi
Bevoglu-Istanbul

UNITED KINGDOM AND NORTHERN IRELAND

Microinfo Ltd.
Attn: Mr. Roy Selwyn
Newman Lane, P.O. Box 3
Alton, Hampshire GU34 2PG
England

UNITED STATES

The World Bank Book Store
600 19th Street, N.W.
Washington, D.C. 20433
(Postal address: P.O. Box 37525
Washington, D.C. 20013, U.S.A.)
Baker and Taylor Company
501 South Gladiola Avenue
Mokenca, Illinois, 60954
380 Edison Way
Reno, Nevada, 89564
50 Kirby Avenue
Somerville, New Jersey, 08876
Commerce, Georgia 30599

Bernan Associates
9730-E George Palmer Highway
Lanham, Maryland, 20761

Blackwell North America, Inc.
1001 Fries Mill Road
Blackwood, New Jersey 08012

Sidney Kramer Books
1722 H Street, N.W.
Washington, D.C. 20006

United Nations Bookshop
United Nations Plaza
New York, N.Y. 10017

VENEZUELA

Libreria del Este
Attn: Mr. Juan Pericas
Avda Francisco de Miranda, no. 52
Edificio Galipan, Aptdo. 60.337
Caracas 1060-A

The World Bank

Headquarters

1818 H Street, N.W.
Washington, D.C. 20433, U.S.A.

Telephone: (202) 477-1234
Telex: WUI 64145 WORLDBANK
RCA 248423 WORLDBK
Cable Address: INTBAFRAD
WASHINGTONDC

European Office

66, avenue d'Iéna
75116 Paris, France

Telephone: (1) 723-54.21
Telex: 842-620628

Tokyo Office

Kokusai Building
1-1 Marunouchi 3-chome
Chiyoda-ku, Tokyo 100, Japan

Telephone: (03) 214-5001
Telex: 781-26838

