

***The Employment Problem  
in the Context of Economic  
Slowdown: The Case of Indonesia***

*Ernesto M. Pernia*

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Earnesto M. Pernia  
Economist  
Asian Development Bank, and  
Visiting Professor of Economics  
University of the Philippines

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A B S T R A C T

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The paper discusses the Indonesian employment issue in the context of changing labor supply and economic growth trends. The reversal of these trends in the 1980s vis-à-vis the 1970s has brought into sharp focus the problem of underemployment and low productivity. It is argued, however, that without the "informal" economic activities in such sectors as agriculture, trade, transport and construction, the employment problem amplified by the economic recession in the first half of the 1980s could have been far worse. Thus, the informal sector plays a critical role as a "shock absorber" in times of economic slowdown. Developing countries, including Indonesia, need to adjust to new realities, namely, that the era of high economic growth may be over. It is likely that the informal sector will have to be relied on more to meet the output and employment requirements of substantial segments of households in developing countries. The paper goes on to discuss Indonesia's future prospects and likely appropriate policy approaches, as well as implications for research.

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## I. Introduction

Although as in most developing countries the employment issue has been a perennial one in Indonesia, it did not seem to be a primordial concern during the 1970s. This was so because GDP in real terms was growing at a respectable rate of about 8.1 percent while the labor force was increasing at a little over 3.0 percent per annum. This meant that average labor productivity (value added per worker) was improving significantly at an annual rate of approximately 5.0 percent.

Economic growth performance in Indonesia during the 1980s, however, has not been as creditable as in the 1970s at the same time that labor supply appears to be growing more rapidly. At the onset of the recession in 1982, real GDP suffered a decline of about 0.3 percent. Over the period 1980-85 GDP annual growth rate averaged 3.6 percent while the labor force is estimated to have grown at around 4.0 percent.<sup>1/</sup> This reversal in economic growth performance, on the one hand, and labor supply increase, on the other, provides an introductory sketch of the employment problem in Indonesia throughout the rest of the 1980s and beyond.

This paper reviews contemporary labor supply trends and employment performance vis-á-vis earlier trends and performance. It cites in passing some comparisons from the Philippines which, like

Indonesia, experienced buoyant economic growth in the 1970s followed by a recession, albeit more severe, in the first half of the 1980s. The paper goes on to look at the comparative performance of the various sectors and industries, then focuses on government spending, exports, and housing as critical areas for employment expansion (or contraction). After discussing underemployment as the real problem, the paper touches on prospects in the medium term as well as some policy approaches. Concluding remarks on research needs concerning human resources in the informal sector round out the paper.

## II. Population: Growth, Spatial Distribution, Literacy and Education

The 1985 Intercensal Population Survey (SUPAS) estimates the population size of Indonesia in 1985 at 164 million. This compares with 147 million in 1980 and implies an average yearly growth rate of 2.15 percent during the quinquennium. Over the 1971-80 period the comparable growth rate was 2.32 percent, suggesting that a demographic transition has been in progress. Such a transition seems to be further evidenced by an appreciable fertility decline--the average number of children ever born per ever married woman fell from 2.64 in 1980 to 1.75 in 1985, according to Central Bureau of Statistics data (BPS, 1987: 31).<sup>2/</sup>

Population continues to be concentrated in Java where 50.9 percent of the total population resides (Appendix Table 1). This relative share in 1985 was only slightly lower than that in 1980 when it was 62.2 percent and in 1971 when it was 63.8 percent. Sumatra, on the other hand, enlarged its share from 19 percent in 1980 to 20 percent in 1985, with virtually all provinces in that island region increasing their population shares. Despite Java's diminishing share of the total population, DKI Jakarta continued to grow both in absolute and relative terms--in 1985 Jakarta's population was 7.9 million representing 4.8 percent of the total. This population size makes Jakarta comparable with other major Asian metropolises.

The first half of the 1980s saw a notable upgrading of literacy rates for both sexes and across all age groups--an apparent continuation of a secular trend. In 1985 the percentage of population 10 years of age and over who were literate was 80.9 percent, compared

to 71.1 percent in 1980 (Appendix Table 2). What is more noteworthy is that the gains in literacy were greater among females in virtually all age groups than among males during the quinquennium. Overall, the comparative gains were from 62.7 to 74.3 percent for females versus 79.8 to 87.8 percent for males.

Considerable improvements in educational attainment were also recorded in 1985 over 1980 (Appendix Table 3). For example, the percentage of population 10 years of age and over who had no schooling fell from 27.5 to 19.1 percent, while those who completed primary schooling rose from 20.7 to 26.8 percent and those who finished general junior high school increased from 4.9 to 7.5 percent. Again, the educational improvements for females were quite considerable. These gains in educational attainment and literacy coupled with the demographic transition alluded to earlier would seem to suggest that Indonesia may be poised to achieve further socioeconomic progress.

### III. Growth and Structure of the Labor Force and Employment

The growth in the labor force is invariably a reflection of earlier fertility levels or population growth. Indonesia, like other countries with high fertility levels in the past two decades or so, is facing up to substantial increases in labor supply. Thus, in the period 1980-85 labor force grew at an estimated annual rate of about 4.0 percent compared to 3.0 percent during the period 1971-80 (Table 1).<sup>3/</sup> More noteworthy is that the absolute increase in the later five-year period was close to that in the earlier nine-year period (11.4 million versus 12.3 million).

Even when the labor force growth rate tapers off, larger additions to the work force can be expected because of the expanding base. Moreover, with fewer births and children per mother plus rising educational attainment levels, female work participation rate is bound to rise, as recent data already show. Table 1 shows that total labor force participation rate steadily rose from 49.9 in 1971 to 53 percent in 1985. This increase was largely attributable to the female component which expanded from 32.1 to 37.6 percent over 1971-85, while male participation rate just hovered in the 67-69 percent range.

The phenomenon of rising female work participation is, however,

Table 1. Population Aged 10+, Labor Force and Employment, 1971-85

	Population (thousands)			Annual growth rate (percent)	
	1971*	1980	1985	1971-80	1980-85
Population (10+)	80,427	104,352	120,380	2.94	2.90
Labor force	40,100	52,421	63,826	3.02	4.02
Employed	39,210	51,553	62,457	3.09	3.91
Unemployed	890	868	1,368	-0.28	5.18
<u>Participation Rate (%)</u>					
Total	49.9	50.2	53.0		
Male	68.7	67.1	68.9		
Female	32.1	32.4	37.6		

\* Census Series C. Series D gives a bigger population 10+ and labor force but smaller employment and larger unemployment.

Sources: BPS, 1985 Intercensal Population Survey; Robert T. Rucker, "A Preliminary View of Indonesia's Employment Problem and Some Options for Solving It", USAID, Jakarta (October 1985); David H. Clark, "Basic Labor Market Data from BPS and Other Sources", Appendix I, Ministry of Manpower (July 1987).

not unique to Indonesia. In the Philippines, for example, a similar uptrend was recorded--from about 41 percent in the late 1970s to 48 percent in 1986--while male participation rate was steady at 80 percent throughout the period.<sup>4/</sup>

Employed labor force grew at an annual rate of 3.9 percent in 1980-85 compared to 3.1 percent in 1971-80 (Table 1).<sup>5/</sup> At the same time, however, the number of unemployed swelled dramatically by 5.2 percent per annum compared to a slight drop in the 1970s. What seems remarkable is that the annual growth in the number of employed persons during the first half of the 80s nearly matched the yearly additions in the labor force despite the marked deceleration in economic growth. This suggests that even if the overall demand for labor hardly

increases, the number of persons working continues to grow at a rate that is largely determined by the increase in labor supply. This may be because surplus job seekers cannot afford open unemployment but have to create their own employment in the absence of available marginal employment.

This supply-induced employment creation is consistent with the well-known "additional worker hypothesis" in the context of the economic recession in the first half of the 80s. Each household simply had to put in more work in the face of declining real incomes. Detailed data on labor force participation reveal that at each age group beyond age 24 male participation rates went up in 1980-85 (Table 2). The increase in work participation rates was even more dramatic for females starting at age 20 through to age 65+.

Table 2. Labor Force Participation Rate by Age Group and Sex, 1980 and 1985

Age group	Males		Females	
	1980	1985	1980	1985
(1)	(2)	(3)	(4)	(5)
10-14	12.7	11.5	9.4	8.0
15-19	47.4	42.1	31.1	30.4
20-24	79.2	78.6	34.0	41.0
25-29	92.1	94.4	35.9	43.6
30-34	94.8	97.7	39.2	48.1
35-39	95.3	98.0	42.4	51.6
40-44	94.8	98.0	45.7	54.5
45-49	93.7	97.2	46.5	56.6
50-54	89.7	95.0	44.0	54.3
55-59	84.2	87.8	40.5	48.6
60-64	76.4	79.2	32.6	39.1
65 +	53.1	57.9	18.8	22.6
Not stated	47.4	2.8	15.8	15.2
Total	67.1	68.9	32.4	37.6

Source: 1985 Intercensal Population Survey (SUPAS).

Table 3 shows that the industrial structure of employment changed little between 1980 and 1985. Agricultural employment diminished slightly from 55.9 to 54.7 percent, manufacturing inched up from 9.1 to 9.3 percent and so did transport and communication from 2.8 to 3.1 percent. Employment in trade posted a relatively noticeable increase from 13.0 to 15.0 percent, but services fell from 13.9 to 13.3 percent.

Moving on to the occupational composition of employed persons, Table 4 reveals a similar pattern of moderate changes during the first part of the 80s. The relative share of farmers fell from 55.8 to 54.8 percent and so did services from 4.3 to 3.7 percent. On the other hand, sales workers rose from 12.9 to 14.7 percent while clerical workers increased from 3.5 to 3.9 percent, and those in professional and technical positions gained in relative size from 2.9 to 3.4 percent.

Table 3. Percentage of Employed Persons by Industry, 1980 and 1985

Industry	1980	1985
(1)	(2)	(3)
Agriculture	55.9	54.7
Mining and quarrying	0.8	0.7
Manufacturing	9.1	9.3
Electricity, gas and water	0.1	0.1
Construction	3.2	3.3
Trade	13.0	15.0
Transport and communication	2.8	3.1
Finance	0.6	0.4
Services	13.9	13.3
Others	0.0	0.0
Not stated	0.6	0.1
Total	100.0	100.0

Source: Same as Table 2.

Table 4. Percentage of Employed Persons by Occupation, 1980 and 1985

Occupation	1980	1985
(1)	(2)	(3)
Professional and technical	2.9	3.4
Managers and administrators	0.1	0.2
Clerical	3.5	3.9
Sales	12.9	14.7
Services	4.3	3.7
Farmers	55.8	54.8
Production and transport equipment operators	19.0	18.3
Others	0.7	0.5
Not stated	0.8	0.5
Total	100.0	100.0

Source: Same as Table 2.

#### IV. Economic Growth and Employment Growth

##### a. Economic slowdown and supply-induced employment

As already mentioned above, the Indonesian economy slipped into a sharp recession during the first half of the 80s when real GDP growth rate fell to less than half the rate in the 70s (from 8.1 to 3.6%). This economic downturn pervaded virtually all production sectors and industries. A comparison of the rates of change of output by industry in 1980-85 relative to 1971-80 reveals marked decelerations in all activities except electric, gas and water (Table 5). The most badly hit were mining and quarrying (7.2 to -2.8%), manufacturing (14.9 to 6.6%), construction (15.8 to 3.4%), and trade (8.0 to 4.0%). Agriculture experienced a relatively slight deceleration from 3.8 to 3.3 percent.

The higher employment growth in 1980-85 (3.9%) over 1971-80 (3.1%) cited earlier was largely accounted for by agricultural employment which picked up from 1.1 to 3.3 percent (Table 5). Trade and transport also showed some improvements, respectively, from 5.1 to 6.8 percent and from 5.0 to 5.8 percent. All the other industrial groups manifested downturns, particularly finance (14.2 to -3.8%), mining/quarrying (18.6 to 1.3%), electric/gas/water (6.9 to 1.0%), and construction (10.6 to 4.7%).

It is noteworthy that despite the production slowdown in agriculture, trade and transport, employment growth picked up in these sectors.<sup>6/</sup> These are the sectors where possibilities for self-employment exist and, therefore, where employment creation can be induced primarily by labor supply rather than by demand. That is to say, with increasing labor supply available work is shared more widely such that the incidence of underemployment in the sectors goes up (Stavenuiter, 1987). But while labor productivity in agriculture was maintained, in the trade sector it fell by 2.7 percent per annum during 1980-85 because of the heavy influx of informal sector traders.

Table 5 shows additional information on sectoral labor absorption as denoted by employment elasticities. Apart from agriculture, trade and transport, construction and manufacturing manifested greater labor absorptive capacities in the first half of the 80s compared to the 70s. Apparently, these latter sectors have also some latitude for

Table 5. GDP Growth and Employment Growth, Indonesia, 1971-80 and 1980-85

Sector	Employment(thousands)			Annual rate of growth of:				Employment elasticities	
	1971	1980	1985	Employment		GDP		1971-80	1980-85
				1971-80	1980-85	1971-80	1980-85		
Agriculture	26285	29022	34178	1.11%	3.32%	3.83%	3.31%	0.2898	1.0030
Mining and Quarrying	84	390	416	18.58%	1.81%	7.25%	-2.78%	2.5628	-0.4712
Manufacturing	5712	4711	5802	6.33%	4.26%	14.86%	6.59%	0.4260	0.6464
El., gas and water	37	67	70	6.87%	0.96%	13.29%	13.77%	0.5169	0.0697
Construction	674	1667	2098	10.58%	4.69%	15.78%	3.37%	0.6705	1.3917
Trade	4297	6723	9356	5.10%	6.83%	8.03%	3.97%	0.6351	1.7204
Transport	950	1478	1960	5.04%	5.81%	12.57%	9.57%	0.4010	0.6071
Fin. services	92	304	251	14.22%	-3.80%	14.80%	9.63%	0.9608	-0.3946
Other services	1079	7191	8326	6.50%	2.97%	9.31%	7.45%	0.6982	0.3987
Total	39210	51553	62457	3.09%	3.91%	8.09%	3.63%	0.3820	1.0771

Notes: -Employment data were taken from the 1971 and 1980 population census and from the 1985 Intercensal survey, SUPAS; persons employed which were not classified by sector have been allocated to sectors in proportion to those enumerated in each sector. Totals may not add due to rounding.

-GDP growth rates for 1971 to 1980 were calculated using the DPS series on GDP in constant 1973 prices; growth rates for 1980 to 1985 are derived from the new series in 1983 prices.

Source: Stan Stavenuiter, "Input-Output Analysis for Indonesian Employment Planning", Summary Report, Department of Manpower/UNDP/ILO (April 1987), p. 28.

informal sector activities and expansion in related services and non-tradables. On the other hand, the largely formal sectors, where employment growth tends to be demand-driven, showed pronounced declines in employment elasticity.

In the Philippines, which sustained a more drastic recession throughout most of 1980-86, own-account employment grew faster (4.5% p.a.) than wage and salary employment (2.5%). Within the former category, construction had the most dramatic expansion (28.3%), followed by services (12.3%), transportation (9.5%), and trade (8.5%). In the latter category, trade and agriculture were the most resilient, growing annually at 8.6 and 6.1 percent, respectively.

Thus, it seems clear from both the Indonesian and the Philippine data that economic contraction does not usually result in correspondingly massive visible unemployment. Rather, intersectoral labor shifts occur largely in the direction of informal sector activities with low productivity and remuneration. This phenomenon results in significant labor-income differentials among sectors and industries for workers of similar education and experience. Data on the Philippines show that the differentials are especially pronounced among manufacturing, services, construction and agriculture (see Riveros, 1987). Analysis of corresponding Thai labor market data reveals similar results, implying a virtual lack of returns to human capital investment (viz., education) in the informal sector (Sussangkarn, 1988).

#### b. Government spending, exports, and housing

Government spending has been an important source of expansion in aggregate demand and employment. Since the introduction of Repelita I in 1969-70, employment-generating budgetary expenditures have been on the uptrend in real terms. However, because the recession, punctuated by the fall in oil revenue, resulted in reduced resources to finance the public sector, the government has had to resort to serious austerity measures for fiscal years 1986-87 and 1987-88. The estimated cuts amount to 17 percent real reduction in budgeted expenditures in two years (2 percent cutback in the routine budget and 38 percent in development spending).

A study using the 1980 Input-Output Table shows that a marked

reduction in employment-generating expenditures has serious contractionary effects on income and employment (Stavenuiter, 1987: 30-49). The decline in the real value of employment-creating routine expenditures is estimated to be 18 percent while for employment-creating development expenditures it is 39 percent--representing a combined drop of 31 percent in 1987-88 relative to the 1985-86 level. This would result in employment losses of some 2.6 million jobs--1.7 million due to reduced development spending and 0.9 million due to lower routine budget spending.<sup>7/</sup>

The same input-output study also looked into the employment impact of exports (Stavenuiter, 1987: 50-59). It estimated that between 1980 and 1985 employment created by exports grew annually at 6.1 percent despite a 1.2 percent annual decline in the value of exports at constant prices. This implies a switch in the composition of exports to more labor-intensive products. Agricultural and mining exports fell in absolute and relative terms while labor-intensive manufactured exports expanded in importance.

Table 6 shows that the total employment coefficients for manufactured exports have been higher than those for agricultural and mineral exports.<sup>8/</sup> The shift to a more labor-intensive pattern of exports occurred not only across broad commodity sectors but also within each sector. For example, the share of wood and wood products (with a high employment coefficient of 1.68) increased from 14 percent of all manufactured exports in 1980 to 24 percent in 1985. The labor intensity of manufactured exports further improved due to the resilience of such labor-using products (or activities) as oils and fats, food processing and textiles. On the other hand, such capital-intensive exports as non-ferrous basic metals and electrical equipment suffered a decline.

The fall in the real value of oil and gas exports during 1980-85 and the rise in non-oil exports helped alleviate the employment problem. Table 7 shows that oil and gas exports have the lowest total (direct plus indirect) employment coefficient (0.05) while non-oil commodity exports have a relatively high employment coefficient (0.80) among major final demand components. However, as discussed earlier, the intended budget cuts for fiscal years 1986-87 and 1987-88 are expected to have considerable negative impacts on labor demand. This is because such budget cuts impinge on final demand components with

Table 6. Total Employment Coefficients for Agricultural, Manufactured, and Mineral Exports, Indonesia, 1980-85

Category	1980	1981	1982	1983	1984	1985
Agricultural	0.7537	0.8030	0.8118	0.8349	0.8890	0.8635
Manufactured	0.9451	0.9799	1.0285	1.0890	1.0873	1.1167
Mineral	0.0469	0.0466	0.0425	0.0464	0.0502	0.0493
All exports	0.2662	0.2522	0.2452	0.2805	0.3091	0.3197

Source: Same as Table 5.

Table 7. 1980 Total Employment Coefficients by Type of Final Demand

Final demand component	Total employment coefficient
Household consumption	1.66
Non-oil commodity exports	0.80
Government consumption	0.80
Services exports	0.77
Fixed capital investment	0.48
Stock changes	0.47
Oil and gas exports	0.05
Total	0.96

Source: Calculated from Biro Pusat Statistik, Tabel Input-Output, 1980, by simulating the impact of different types of final demand for domestic output at producer prices. Taken from Stavenuiter (1987), p. 45.

high total employment coefficients such as household consumption (1.66) and government consumption (0.80).

The input-output methodology was also used in a study of the housing sector in relation to economic growth and employment (Jammal, 1987). The study demonstrates that the housing sector can make a significant contribution to output and employment growth. There is a large demand for housing which has been unfulfilled because of economic and especially institutional constraints. The housing sector appears to have the potential to grow more or less independently of the overall situation, and it has a high labor absorption capacity due to strong backward linkages made possible by low import content and the use of unskilled labor.

Residential construction activity and its backward linkage effects can result in substantial employment growth. It is estimated that a one trillion rupiah increase in residential building output can generate direct employment equivalent to 161,000 new jobs plus indirect employment of about 406,000 new jobs, or a total employment increase of 567,000 jobs (Table 8).<sup>9/</sup> The linked manufacturing and trade sectors alone can spawn indirect employment of some 208,000 and 107,000 respectively.

These potential employment effects are actually "first-round" effects only. Further increases in output and consequently employment can be created by higher consumption spending due to rising household incomes. The potential "second-round" employment effects could even be more significant although these will be spread over several years.

## V. Unemployment and Underemployment

### a. Underemployment as the problem

Data from the 1971 (series C) and 1980 censuses and the 1985 intercensal survey suggest that open unemployment rates had oscillated around 2.0 percent. In 1961 unemployment rate was estimated at 5.4 percent. The unemployment rate has invariably been higher in urban than in rural areas, and higher among females than among males since the latter can ill-afford to be jobless. This pattern also holds true in the case of the Philippines.

Table 8. Employment Effects of a 1 Trillion Rupiah<sup>1/</sup>  
Increase in Residential Building Output<sup>2/</sup>  
Using Adjusted Employment Coefficients<sup>2/</sup>

Sector	Direct employment (000)	Indirect employment (000)	Total employment (000)
Agriculture	0	28	28
Mining	0	26	26
Manufacturing	0	208	208
Construction	161	1	162
Trade	0	107	107
Transport	0	18	18
Other services	0	18	18
Total	161	406	567

1/ Act constant 1983 prices

2/ The adjusted employment coefficients used were those of wooden building materials, veneer and bamboo for I/O sector 37; of roofing tiles and structural clay products for I/O sector 43; of cutlery, kitchen apparatus, fixtures of metal and structural metal products for I/O sector 47; of paint for I/O sector 40; of plastic wares for I/O sector 42; and of electrical appliances for I/O sector 48.

Source: Yahya Jammal, "The Housing Sector in Indonesia as a Potential Leading Domestic Sector for Growth and Employment", Ministry of Manpower/UNDP/ILO (July 1987), P. 23.

A total unemployment rate of 2.0 percent can be regarded as respectably low by the standards of developing countries in general and is quite comparable to rates in high-growth Asian countries. For a typical developing country, however, the consensus has been that underemployment figures are not very meaningful and can in fact be misleading in the analysis of the employment problem. The "employment problem" usually manifests itself in other ways. Available work tends to be shared; being unemployed is really a luxury for the poor; and any marginal income earned by a household member can be an important addition to total household income (Rucker, 1985). These manifestations of the employment problem imply that the real issue of concern is underemployment.

The reversal of GDP and labor force growth rates in 1980-85 vis-à-vis 1971-80 plus the more rapid growth of the employed segment of the labor force in the more recent period provide clear signals that underemployment has been on the uptrend. The faster growth of employment compared with output growth--overall as well as for some large sectors, notably agriculture, trade and construction--has been interpreted as a phenomenon of "supply-induced employment creation". This phenomenon is reflected in the rise of underemployment and the expansion of the informal sector. For instance, of the 10.9 million increase in the number of workers during 1980-85, more than half was accounted for by the increase in the number of "family workers" (5.6 million) who in 1980 constituted only 18 percent of the work force (Stavenuiter, 1987: 29). It thus seems, as pointed out earlier, that the economic recession has forced additional household members to enter the labor market.

A comparison of Tables 9 and 10 shows that, on the whole, for both urban and rural areas underemployment rates in 1985 were higher than in 1980: 19 percent for urban and 42 percent for rural in 1985 versus 18 and 41 percent, respectively, in 1980. An examination of specific age groups also reveals that the higher rates for 1985 are reflected especially in the prime working age groups 10-29. The older age groups show somewhat lower underemployment rates in 1985, implying either greater work intensities among the adults and household heads in the face of lower incomes or the "discouraged worker" phenomenon, i.e., work force participants pulling out of the labor market due to the sheer absence of work opportunities.

Table 9. Rates of Underemployment, 1980

(Percentage)

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

Source: Rucker (1985), p. 58, from Population Census 1980, Series S, No. 2, Tables 56.1-9.

Table 10. Percentage of Persons Who Worked Less Than 35 Hours During the Previous Week by Age Group and Urban/Rural Areas, 1985

Age group (1)	Urban (2)	Rural (3)
10 - 14	47.7	80.5
15 - 19	26.6	53.8
20 - 24	19.4	41.8
25 - 29	15.5	36.3
30 - 34	14.5	33.4
35 - 39	17.1	34.6
40 - 44	16.6	35.2
45 - 49	19.0	36.6
50 - 54	20.0	39.2
55 - 59	23.8	43.5
60 - 64	30.5	47.8
65 +	36.1	54.4
Not stated	-	-
Total	19.2	41.5

Source: 1985 Intercensal Population Survey (SUPAS).

In general, the age-specific underemployment rates in Tables 9 and 10 translate into a U-shaped curve. As a rule, underemployment rates are higher in rural than in urban areas across all age groups, and higher among females than among males. Additionally, the likelihood of being underemployed is usually highest among the young and the old. All in all, because of the magnitude of the rural labor force and its age structure, it is in rural areas where underemployment is a more serious problem.

#### b. Income and poverty

In terms of income, real national income per capita increased at a robust annual rate of about 5.4 percent from the mid-70s to the early 80s (1976-81). This economic improvement seemed widespread throughout the country with 25 of the 27 provinces showing notable increases in real regional GDP per capita (Rucker, 1985: 83-84). The onset of the recession in 1982, however, saw the per capita growth rate plummet to less than 0.5 percent, and this slowdown has continued to the mid-80s.

A look at poverty incidence data suggests that there had been a steady improvement between 1970 and 1980 (Table 11). Using a poverty line defined in terms of subsistence food levels plus some minor non-food allowance, the World Bank estimated the poverty incidence to be about 40 percent in 1980 compared to 57 percent in 1970.<sup>10/</sup> Poverty incidence appears higher in Java (47 percent) than the outer islands (28 percent). In both parts of the country, the poverty situation has consistently been worse in rural than in urban areas by a considerable margin.

Data on output per worker by sector show decreases or lower rates of increase in 1980-85 relative to 1971-80, except for electricity, finance, and services (Table 12). In agriculture average labor productivity fell by -0.3 percent per annum. In the mining, trade and construction sectors, the deterioration in labor productivity was even more pronounced. This is consistent with earlier data showing greater labor absorption in the informal sector and therefore rising rates of underemployment.

Earlier studies using data up to 1980 have identified low productivity of available employment, not so much open unemployment, as the

Table 11. Regional Variations in Poverty Incidence, 1970-80

(% of Population)

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

Source: Rucker (1985), P. 85 from IBRD: 1984, p. 130.

Table 12. Average Productivity by Industry, 1985 Levels and Rates of Change, 1971-80 and 1980-85

	Level	Rate of change	
	1985 (Rp. thousands)	71 - 80	80 - 85
Output per worker (1000's Rp. prices)		(percent)	
Agricultural	600	2.9	-0.3
<u>Non-Agricultural</u>			
Manufacturing	1,700	7.0	2.1
Construction	2,200	4.6	-1.4
Trade	1,300	2.4	-3.6
Transport and communication	2,300	7.0	3.4
Mining	33,600	-9.3	-4.2
Electricity, gas and water	8,500	6.4	12.5
Finance	9,700	-0.2	18.9
Services	1,400	3.7	3.9

Source: Clark (1987), p. 18.

real employment problem. If the income-employment situation then was already regarded as a problem, it is difficult to escape the conclusion that the situation is likely to become more problematic in an era of slower economic growth and faster growth in labor supply.

## VI. Prospects and Policy Approaches

### a. Prospects

The economic growth scenario, as depicted by experts, is not expected to improve at least in the medium term. The absolute increases in labor supply, on the other hand, will be progressively larger (even at lower growth rates) due to an expanding labor force base and higher work participation rates of women and other supplemental workers. Generating employment opportunities to absorb the increase in labor supply, not to mention the existing surplus labor, will be the great challenge to Indonesia's development policy in the medium to long run.

Table 13 presents labor demand projections against labor supply projections, under varying assumptions, for the 1980s. On the demand side, real GDP growth is estimated to range from a low of 4.0 percent to a high of 5.2 percent with employment elasticity of between 0.39 and 0.53. The implied maximum rate of growth of employment is 2.76 percent. On the supply side, labor force is estimated to grow in the 2.2-2.7 percent range.<sup>11/</sup> If the higher growth rate in labor supply prevails, as most indications suggest, the more optimistic economic growth and employment elasticity scenario will be necessary for labor demand to match labor supply without a diminution in the average number of hours worked. A caveat on the labor demand projections should be added, namely that the employment elasticities were calculated on the basis of changes in nominal employment without holding the average units of labor time constant.

The response to a probable shortfall in labor demand, as in the past, will likely be through adjustments in hours worked rather than through a rise in open unemployment. In other words, there would be some form of automatic nominal full employment as the nominal number of employed labor force will grow roughly pari passu with the growth

Table 13. Comparison of Labor Demand and Labor Supply Projections for 1980s

	Real GDP % Growth	Employment Elasticity	% Growth Employment
<u>Labor Demand Projections (1982-90)</u>			
<u>Medium Economic Growth</u>			
- Low elasticities of 1970s	5.2	0.39	2.03
- High elasticities of 1960s	5.2	0.53	2.75
<u>Low Economic Growth</u>			
- Low elasticities of 1970s	4.0	0.39	1.55
- High elasticities of 1960s	4.0	0.53	2.12
			<u>% Growth Labor Supply</u>
<u>Labor Supply Projections (1980-90)</u>			
- Constant dependency ratio (Census)			2.13
- Constant total LFPR (Census)			2.50
- Constant age specific (Census)			2.63
- Constant total LFPR (Sakernas)			2.51
- Constant age specific LFPR (Sakernas)			2.60
- Official GOI trend analysis (Sakernas)			2.72
Projected Population growth ages 10+			2.52
IBRD estimates of labor supply			2.6-2.7

Source: Rucker (1985), p. 108.

in labor supply (Rucker, 1985: 109-111). This process would manifest itself in greater employment shifts towards trade, transportation and services sectors which have large informal sector components with relatively ample absorptive capacities. Likewise, the employment shift away from agriculture and the rural sector would slow down as the expansion of industrial and urban sector employment possibilities become relatively more limited. The major policy changes of 1983-84, 1986 and 1987, if sustained, could however ease some of the constraints on urban and industrial employment growth.

Overseas labor migration is a small phenomenon and would therefore provide inconsequential relief from un- or under-employment. The yearly volume of international labor migrants is currently about 57,000, of which 80 percent are housemaids and 20 percent drivers.

Because these are low-paid occupations, the annual remittances amount to only some US\$53 million. The volume of labor migrants represent less than 4.0 percent of recorded unemployment and less than 1.0 percent underemployment. Experts say that overseas labor migration holds little promise for the future.

Given the above prospects for economic growth, employment growth, and labor supply expansion, it is clear that Indonesia's development and investment strategies will have to give special attention to the employment problem. There is in fact already an evolving consensus among government officials, private and academic circles that the next medium-term plan (Repelita V) will have to have a strong orientation toward both employment generation and human resource development.

b. Some policy approaches

The first approach, which seems to be gaining wide acceptance, is a decisive shift away from the dependence on oil exports to labor-intensive non-oil exports. As discussed above and indicated in Table 7, oil and gas exports have a very low total employment coefficient (0.05) compared with other items such as non-oil commodity exports (0.80) and services exports (0.77). Tourism also seems to hold promise both for earning foreign exchange and for generating new jobs.

Second, related to the first approach is agricultural diversification from rice to non-rice crops for export or domestic markets, such as rubber, tea, coffee, palm oil, sugar, maize, soya beans, fruits and vegetables. Special attention should be given to small-scale operations to maximize employment and income-distribution effects. Indonesian agricultural production is less diversified than Philippine and Thai agriculture (see Oshima, 1987). Forward linkages to agro-industries and off-farm employment should also be promoted. Mechanization of agriculture, especially in Java where population densities are very high, should not be encouraged by government policy, e.g., through subsidized credit.

Third, in the manufacturing sector, small-scale industries should be fostered via the removal of policy-induced biases favoring capital-intensive large enterprises. Policy measures that have led to high-cost (or inefficient) manufacturing activities include import bans, quotas, high tariffs and monopolistic import licensing.<sup>12/</sup> Credit

schemes can be effective in fostering small-scale industries, as some Philippine experience illustrates, although care must be taken that they will not result in permanent "dole-outs" (Pernia and Pernia, 1986).

Fourth, the contractionary effects on employment from government austerity budgets could be eased by making the incidence of budget cuts more selective (Stavenuiter, 1987: 47-48). In the routine budget, every effort should be made to keep employment-creating expenditures, especially those which raise household incomes resulting in multiplier effects on demand and employment. This effort at selective cutbacks is even more important with respect to the development budget in the nature of development projects of labor-intensive character. A good example is the INPRES projects, which nevertheless are to sustain a 10.4 percent cut in the 1986-87 budget and a 29 percent reduction in the 1987-88 budget. Projects with low import content are likely to spawn more local jobs per unit of investment and, therefore, should be identified for speedier implementation.

Fifth, given the backlog in housing supply and the employment-generating potential of this sector, government policy should help promote this sector. Various economic and institutional constraints need to be dealt with so that the potential demand for housing which is substantial can effectuate itself. Institutional constraints include construction standards, land titling procedures, and housing finance.

Sixth, on the labor supply side, innovative approaches to population policy are needed. While the family planning program has been noted by observers for its success, there is further room for its strengthening and extension. Beyond meeting the "unmet need" for family planning information and services, there is a need to influence the demand for children toward smaller size families. Population policy should also come to grips with (spatial) distributional aspects so that man/resource ratios can become more favorable and the match of labor supply with job opportunities can be improved.

Finally, also on the supply side, education and training policy should be harmonized with development and employment strategy. There is a need to improve education quality, especially at the primary and secondary levels. At the tertiary level, the emphasis has to be on the sciences and engineering rather than on social sciences and the

humanities. Formal systems should be supplemented by non-formal education and on-the-job training and re-training schemes. Care must be taken in expanding vocational/technical education and training on the basis of the conventional manpower-requirements forecasting method as experience with this approach has not been too encouraging. Studies have shown that, because predicting future requirements is always hazardous, it may be better to attend to general education and cope with vocational/technical manpower shortages by assessing current imbalances through labor market analyses.

## VII. Concluding Remarks

The moral of the Indonesian employment story is that the informal sector plays a critical role as a "shock absorber" in times of economic slowdown. Without this sector the employment and poverty problems in Indonesia could be far worse. This is true as well in the Philippines and in other developing countries undergoing recession.

Yet the contribution of the informal sector to both production and employment is not sufficiently recognized, much less adequately documented. It will be useful to know more about the dynamics of the informal labor market and its links to the formal sector. For instance, is the labor flow one-way from formal to informal sector, with the reverse flow more constrained?

Developing countries need to adjust to new realities, namely, that the era of high economic growth may be over. It is likely that the informal sector will have to be relied on more to meet the output and employment requirements of substantial segments of households in developing countries. It will be useful, therefore, to find ways of making human resources in this sector more productive, e.g., through capital deepening and training schemes. Improving the dynamism and links of the informal sector with the formal sector by rectifying policy-induced biases against it can also be an important contribution toward the solution of the employment problem.

## Notes

1. This estimate is from the 1985 Intercensal Population Survey (SUPAS) which may not be directly comparable to the 1980 Census. Some officials at BAPPENAS believe in the estimate but other officials at BPS suspect it to be on the high side. Independent evaluations of the data suggest that the 4.0 percent growth estimate is inflated by a larger share of unpaid family workers captured by the SUPAS (12.3 percent) compared to that in the Census (8.8 percent) (see Jones, 1987; Kornis, 1987). Be that as it may, there is enough consensus about an acceleration of the growth rate relative to that of the 70s for reasons discussed below. On the other hand, the latest estimate for GDP growth rate in 1986-87 is in the vicinity of 3.0 percent.
2. While a fertility decline is believable, the reported average CEB figures seem too low to be realistic.
3. See note number 1 above. Using labor force survey (SAKERNAS) data, labor force is estimated to have increased at an annual rate of 2.95 percent during the period 1976-86 (Kornis, 1987).
4. National Census and Statistics Office, Integrated Survey of Households (Manila, Philippines).
5. The caveat stated in note 1 is once again pertinent here, namely, that the higher employment growth rate in 1980-85 may largely reflect the "overrecording" of unpaid family workers (especially females) in the 1985 SUPAS or the "underrecording" of such workers in the 1980 Census (Jones, 1987).
6. See, however, note 5.
7. These employment losses do not necessarily represent a reduction in the number of persons employed or an increase in open unemployment but rather a reduction in labor demand in terms of the number of persons working at 1980 work intensities. This could mean an increase in underemployment or an expansion of the informal sector, as discussed in the preceding section.
8. The total employment coefficient of a sector is an indicator of that sector's labor intensity in terms of both direct and indirect employment. For example, in 1985 for one million Rupiah worth of exports (in 1980 prices), 1.1 persons were employed if the output were from manufacturing, 0.86 person if output were from agriculture, and 0.05 if output were from mining.
9. Again, as earlier, these numbers do not necessarily imply an increase in the number of persons employed or a drop in open unemployment. Rather, they reflect additional labor demand in terms of man-years using the 1980 factor proportions.

10. "The definition of poverty is based on a minimum food expenditure requirement of 17.6 kgs. of rice per month per capita which is required to provide 2,150 calories and 30 grammes of protein per day. In addition, an allowance is made for non-food basic items such as shelter and clothing, related to the consumption expenditures of households substituting at the minimum food expenditure level" (World Bank studies in Robert Rucker, 1985: 85).
11. It should be noted that the projected growth in labor supply here is in terms of nominal labor force as opposed to units of labor time.
12. Although some progress has been made through policy reforms in 1983-84 and more recent ones after the 1986 devaluation, trade liberalization can still go further to reduce the high cost of production in Indonesia (Stan Stavenuiter, 1987:46). In December 1987, some further reforms in the area of trade and foreign investment were announced.

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Appendix Table 1. Population Distribution and Growth by Province, 1980-85

Province		Population (000,000)				Annual rate of growth	
		1980		1985		1971-1980	1980-1985
(1)	(2)	Population	%	Population	%	(7)	(8)
1.	D.I. Aceh	2.61	1.78	2.97	1.81	2.93	2.62
2.	Sumut	8.35	5.69	9.42	5.74	2.60	2.42
3.	Sumbar	3.41	2.32	3.70	2.25	2.21	1.65
4.	R i a u	2.16	1.47	2.55	1.55	3.11	3.28
5.	Jambi	1.45	0.98	1.74	1.06	4.07	3.83
6.	Sumsel	4.63	3.15	5.37	3.27	3.32	3.01
7.	Bengkulu	0.77	0.52	0.94	0.57	4.39	4.19
8.	Lampung	4.62	3.15	5.91	3.60	5.77	5.01
	SUMATRA	28.00	19.06	32.60	19.85	3.32	3.08
9.	DKI Jakarta	6.48	4.42	7.89	4.81	3.93	3.93
10.	Jabar	27.45	18.71	30.83	18.79	2.66	2.35
11.	Jateng	25.37	17.28	26.94	16.43	1.64	1.21
12.	D.I.Yogyakarta	2.75	1.87	2.93	1.79	1.10	1.27
13.	Jatim	29.17	19.88	31.26	19.06	1.49	1.38
	J A W A	91.22	62.16	99.85	60.88	2.02	1.81
14.	B a l i	2.47	1.68	2.65	1.62	1.69	1.42
15.	N T B	2.72	1.86	2.99	1.83	2.36	1.91
16.	N T T	2.74	1.86	3.06	1.87	1.95	2.26
17.	Timtim	-	-	0.63	0.38	-	2.58
	NUSA TENGGARA	7.93	5.40	9.34	5.70	2.01	1.92
18.	Kalbar	2.49	1.69	2.82	1.72	2.31	2.55
19.	Kalteng	0.95	0.65	1.12	0.68	3.43	3.21
20.	Kalsel	2.06	1.41	2.27	1.39	2.16	1.94
21.	Kaltim	1.21	0.83	1.51	0.92	5.73	4.41
	KALIMANTAN	6.71	4.58	7.72	4.71	2.96	2.81
22.	Sulut	2.12	1.44	2.31	1.41	2.31	1.80
23.	Sulteng	1.28	0.88	1.51	0.92	3.86	3.22
24.	Sulsei	6.06	4.13	6.61	4.03	1.74	1.74
25.	Sultra	0.94	0.64	1.12	0.68	3.09	3.51
	SULAWESI	10.40	7.09	11.55	7.04	2.22	2.11
26.	Maluku	1.41	0.96	1.61	0.98	2.88	2.66
27.	I r j a	1.17	0.75	1.37	0.84	2.67	3.15
	MALUKU+IRJA	2.58	1.71	2.98	1.82	2.79	3.17
	INDONESIA	147.49	100.00	164.05	100.00	2.32	2.15

Source: 1985 Intercensal Population Survey (SUPAS).

Appendix Table 2. Percentage of Population 10 Years of Age and over Who Are Literate by Age Group and Sex, 1980 and 85

Age Group	Males		Females		Both Sexes	
	1980	1985	1980	1985	1980	1985
(1)	(2)	(3)	(4)	(5)	(6)	(7)
10-14	90.6	97.8	89.2	97.7	90.0	97.7
15-19	90.1	96.5	83.8	94.2	86.9	95.4
20-24	88.8	94.4	79.2	88.4	83.6	91.1
25-29	86.6	91.9	74.3	83.3	80.4	87.4
30-34	83.6	90.5	64.8	79.9	74.0	85.3
35-39	80.2	88.7	54.2	72.5	67.0	80.7
40-44	72.6	86.2	40.4	60.0	56.2	72.6
45-49	65.6	79.6	33.7	50.1	49.3	64.9
50+	53.2	64.0	20.0	30.3	36.2	46.5
Not Stated	48.5	60.7	25.2	9.1	37.9	37.3
Total	79.8	87.8	62.7	74.3	71.1	80.9

Source: 1985 Intercensal Population Survey (SUPAS).

Appendix Table 3. Percentage of Population 10 Years of Age and over by Educational Attainment and Sex, 1980 and 1985

Educational Attainment	Males		Females		Both Sexes	
	1980	1985	1980	1985	1980	1985
(1)	(2)	(3)	(4)	(5)	(6)	(7)
No schooling	18.9	12.1	35.9	25.8	27.5	19.1
Did not finish Primary School	43.9	38.6	38.2	36.9	41.0	37.7
Primary School	23.4	29.1	18.0	24.6	20.7	26.8
Junior High School/ General/Vocational	6.0 1.4	8.8 1.6	4.0 0.7	6.3 1.1	4.9 1.0	7.5 1.3
Senior High School/ General/Vocational	2.9 2.8	4.8 3.9	1.4 1.5	2.6 2.3	2.2 2.2	3.7 3.1
Diploma I/II	-	0.2	-	0.2	-	0.2
Academy/Diploma III	0.4	0.4	0.2	0.2	0.3	0.3
University	0.3	0.5	0.1	0.0	0.2	0.3
Not Stated	0.0	-	0.0	-	0.0	-
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: 1985 Intercensal Population Survey (SUPAS).