

# How Important Are Labor Markets to the Welfare of Indonesia's Poor?

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Because poverty mainly afflicts agricultural and self-employed households in Indonesia, the most direct ways that policy can help to reduce poverty are through improving the operation of product, land, and capital markets, particularly where the regulatory environment now works to reduce farm profitability or inhibit entry to productive enterprises by the poor. Labor market policy can play an important role by facilitating, not impeding, labor mobility across sectors.

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## Summary findings

The majority of the poor in Indonesia come from agricultural and self-employed households. About 70 percent of the remaining poor came from rural agricultural households in 1993, and more than 72 percent lived in households that derived the bulk of their income from self-employed enterprises. Moreover, the largest single contribution to poverty reduction between 1990 and 1993 came from within-sector welfare gains to self-employed farm households.

Data show that the role of the labor market in reducing poverty has increased since the mid-1980s. Wage labor markets can be expected to play an increasingly important impact on the welfare of Indonesia's poor as the economy continues to undergo structural change, and as the workforce continues to move out of agriculture into manufacturing and services.

Because poverty remains largely an agricultural and self-employed phenomenon, the most direct way for policy to contribute to reducing poverty is to focus on

improving the operation of product, land, and capital markets — particularly where monopolies reduce farm profitability or viability (for example, cloves, oranges) or where excessive regulations raise costs or inhibit entry to productive enterprises by the poor. At the same time, labor market policy can play an important role in the Government of Indonesia's efforts to reduce poverty by helping to facilitate labor mobility across sectors — for example, from low productivity activities in agriculture to higher productivity activities in other sectors.

But if they reduce labor mobility, labor market policies can be counterproductive to Indonesia's poverty reduction efforts. Recent empirical evidence suggests that increases in the minimum wage may have hurt employment growth, particularly among small firms. As such, using minimum wage policy to ensure high wages to a limited number of (mostly nonpoor) workers will almost certainly diminish the poverty reducing potential of the labor market.

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# **How Important are Labor Markets to the Welfare of the Poor in Indonesia?**

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## 1. Introduction

In 1970, Indonesia was among the poorest countries in the world, with roughly 60 percent of the population living in absolute poverty (World Bank, 1994). Since that time, however, Indonesia has achieved an impressive record of consistent broad-based growth and sustained poverty reduction. Between 1970 and 1993, for example, real GDP grew at an average of over 6 percent a year. Between 1976 and 1990, the proportion of the population living below the official poverty line declined from 40.1 to 15.1 percent; and the number of poor essentially halved, from 54.2 to 27.2 million people (Biro Pusat Statistik, 1992). While these poverty numbers reflect official Government of Indonesia estimates, several studies have shown that recent declines in aggregate poverty are quite robust to different poverty measures (see World Bank, 1993; Wiebe, 1994).

As the Indonesian economy has grown, its structure has changed, as has the structure of the labor force. The share of agriculture and mining in GDP has declined, while the share of manufacturing has grown. Since the mid-1980s, government deregulation policies have given additional impetus to manufacturing, inducing rapid growth of non-oil, often labor-intensive, enterprises. Changes in the labor force broadly reflect changes in the structure of the economy. The share of the labor force in agriculture has declined significantly over time; while roughly two-thirds of the workforce worked in agriculture in 1971, only about one-half of the labor force worked in that sector in 1990. At the same time, the shares in industry and services have increased; between 1971 and 1990, the share of the labor force in industry increased from 10.0 to 16.8 percent<sup>1</sup>, while the share in services grew from 24.0 to 32.7 percent (Manning, 1994).

Growth of wage employment in manufacturing and services and in manufactured exports since the late 1980s has led to concerns -- both within Indonesia and from its trading partners -- regarding labor standards and workers' welfare. As a result, the Government of Indonesia has tried increasingly to use policies, such as those on minimum wages, unions, and pensions, to affect labor market outcomes. While recent labor market policy initiatives have often had multiple objectives, the Government has tended to justify policy choices in terms of their impact on workers' welfare or their impact on poverty. For example, recent increases in the Government's minimum wage have been explained largely in terms of ensuring low-skill workers the ability to afford a minimum basket of goods.

But just how important are labor markets to the welfare of the poor? This paper attempts to answer this question by examining linkages between labor market activity and poverty reduction in Indonesia during the early 1990s. Recent research provides several insights into labor market-poverty linkages during the mid-1980s. Using household survey data, Huppi and Ravallion (1991) analyze changes in the sectoral structure of

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<sup>1</sup> The share of the labor force in manufacturing grew from 6.5 to 11.6 percent over the same period (World Bank, 1994).

poverty between 1984 and 1987. Their analysis suggests that labor markets played a modest, albeit increasing, role in the welfare of the poor. In 1984, for example, approximately one quarter of the poor came from households whose primary source of income was wage employment. About 59 percent of these households worked in the rural farm sector. In terms of poverty alleviation, about 21 percent of the decline in the national headcount between 1984 and 1987 was due to *within-sector* improvements in living standards among wage-earning households, with over half of this impact resulting from gains to rural, farm-sector households. Population shifts from self-employed to wage-earning sectors -- for example, shifts from self-employed agriculture into employment in service sector jobs -- also appear to have accounted for a several percentage-point decline in aggregate poverty.

Detailed income profiles of self-employed farmers in four provinces also indicate growth in wage earnings among self-employed farmers in Central and East Java, both in absolute terms and as a proportion of total income, between 1984 and 1987. In Central Java, an effective doubling of real wage income among self-employed farm households contributed substantially to declines in poverty over the period. Income from wages did not, however, play a significant role in reducing poverty among self-employed farmers in either East Nusa Tenggara or West Kalimantan. In fact, the relative importance of wage income among the poor in West Kalimantan declined during the period (Huppi and Ravallion, 1991).

While Huppi and Ravallion (1991) provide valuable information on the role labor markets played vis-a-vis the poor during the 1984-87 period, there have been a number of important economic changes in Indonesia since 1987. For example, the Government of Indonesia intensified its trade and industrial deregulation efforts after 1986, helping to fuel a subsequent boom in manufacturing of non-oil exports. The sectoral shares of employment have also continued to change since the mid-1980s. In fact, between 1990 and 1993 the *absolute size* of the agricultural labor force declined for the first time -- by nearly 2 percent.<sup>2</sup> Such developments may well have changed the extent to which labor market earnings affect the welfare of the poor.

Have changes in economic conditions in Indonesia since 1987 substantially increased the role of labor markets in the earnings and welfare of the poor? Has there been a shift from informal sector (e.g., agricultural) to formal sector (e.g., manufacturing and services) wage employment? And, if so, is there an appropriate role for labor market policies in enhancing the opportunities and earnings of the poor? This paper addresses these key questions, using household survey data from Indonesia for 1990 and 1993.

The paper is organized as follows. Following a brief summary of the data and methodology in Section 2, the paper examines the sectoral structure of poverty in Indonesia and how it has changed between 1990 and 1993 (Section 3). Section 4 then explores labor market activities among the poor, focusing on rural, agricultural

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<sup>2</sup> National Labor Force Survey (SAKERNAS) 1990 and 1993.

households. In 1993, the Indonesian socio-economic survey, SUSENAS, collected variables on labor force participation and hours worked that facilitate for the first time analysis of the linkages between individuals' labor market characteristics and welfare. Section 5 thus compares the labor market characteristics of the poor with those of the non-poor and highlights the relationships between workers' characteristics, labor market activity, and poverty. The paper concludes by examining what the data imply for labor market policy in the context of the Government of Indonesia's poverty reduction strategy.

## **2. Data and Methodology**

The information on the linkages between labor markets and poverty alleviation in Indonesia discussed in this paper are derived largely from analysis of Indonesia's 1990 and 1993 SUSENAS surveys. SUSENAS is a national consumption/expenditure survey collected every three years in Indonesia. The 1990 survey collected data from a stratified random sample of 45,000 households across Indonesia's 27 provinces, while the 1993 SUSENAS collected data from a sample of nearly 60,000 households. Both the 1990 and 1993 SUSENAS surveys are representative at the province level. Sampling weights, developed by Indonesia's Central Bureau of Statistics (CBS), can be used to draw population-wide inferences. In both 1990 and 1993 SUSENAS, data are available on household consumption expenditure and income, as well as on household demographic characteristics and household members' education levels. In addition, the 1993 SUSENAS also contains data on individuals' labor force labor force participation and hours worked. Insufficient data are available, however, to impute individual-level wages in either the 1990 or 1993 SUSENAS.

The choice of a poverty measure is always to some extent arbitrary. To estimate the sectoral structure of poverty in 1990, this paper relies on poverty lines developed to analyze aggregate and regional poverty in Indonesia in 1990 (World Bank, 1993). These poverty lines provide for regionally consistent estimates of poverty across Indonesia. For 1993, these poverty lines are updated to 1993 Rupiah terms using food and non-food consumer price indexes calculated by CBS for each province. This provides for consistent estimation of the changes in the sectoral structure of poverty over time. The 1990 poverty lines have distinct food and non-food components. These components were inflated to 1993 terms separately using food and non-food CPIs from Indonesia's 27 province capitals. This was done to capture changes in the relative prices of food and non-food items over the period.<sup>3</sup> Alternative poverty measures were applied to the data to help test the robustness of the findings presented in the body of the paper (see Appendix 2). For simplicity of exposition, this paper focuses on a headcount measure of poverty, although the qualitative results are robust to other types of measures, including poverty gap ( $P_1$ ) or distributionally sensitive poverty ( $P_2$ ) measures.

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<sup>3</sup> CPI data are unavailable for most rural provinces and, as such, no adjustments are made to account for any changes in relative prices between rural and urban prices that may have occurred over the period.

In examining the sectoral structure of poverty and in developing detailed income profiles within specific sectors, the paper draws on the methodology employed in Huppi and Ravallion (1991). Most notably, to assess the sources of reductions in poverty between 1990 and 1993, the paper adopts a decomposition formula that allows one to distinguish the extent to which observed reductions of aggregate poverty are due to *within-sector* improvements in welfare or *population shifts* from one sector to another. The formula is defined as follows. Let  $P_{it}$  equal the headcount index (or any other additive, population-weighted poverty measure) for sector  $i$  with population share  $n_i$  at time  $t$ , where there are  $m$  such sectors, and  $t=1990, 1993$ . Then it can be shown that:

$$P_{93} - P_{90} = \sum (P_{i93} - P_{i90})n_{i90} + \sum (n_{i93} - n_{i90})P_{i90} + \sum (P_{i93} - P_{i90})(n_{i87} - n_{i84})$$

where the summations are over sectors  $i=1, \dots, m$ .

The first term on the left-hand side represents the “intrasectoral effects.” This term captures the contribution of within-sector improvements in welfare to poverty reduction, controlling for each sector’s base period population share. The second term represents the “population shift effects” and captures how much poverty was reduced from 1990 to 1993 through changes in the sectoral composition of the population over the period. The third term represents the “interaction effects” and captures correlations between intrasectoral changes and population shifts. Because this decomposition can be used to examine the sources of poverty reduction in detail, it is extremely valuable in trying to understand just important the labor market was to poverty reduction between 1990 and 1993.

### 3. The Sectoral Structure of Poverty

Poverty remains a predominantly rural, agricultural phenomenon in Indonesia. In both 1990 and 1993, average per capita expenditure was lowest and the incidence of poverty highest among wage-earning and self-employed farmers in rural areas (Table 1; Appendix 1). For example, in 1990, the incidence of poverty was 32.4 percent among wage-earning farmers and 27.3 percent among self-employed farmers, compared with 19.2 percent for the population as a whole.<sup>4</sup> Even though the incidence of poverty declined in all sectors except mining<sup>5</sup> between 1990 and 1993, the rural farm households

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<sup>4</sup> This figure for the aggregate headcount index for Indonesia differs slightly than the 19.6 percent reported for Indonesia in World Bank (1993). Although the poverty lines and sample weights used in both calculations were the same, the methods of calculation differ slightly. The World Bank (1993) calculations used grouped data to execute the calculations, while the current estimates use unit record data.

<sup>5</sup> The incidence of poverty increased among urban self-employed and rural wage-earning mining households. Together these sectors made up less than 0.5 percent of the Indonesian population in 1990 and 1993. Findings on changes in welfare among urban self-employed mining households should be viewed with caution because of the small number of observations on these households. Because of concern about reliability of estimates with small cell sizes, sectors with sample sizes of less than 100, including self-employed mining, are not presented in Table 1.

**Table 1: Changes in the Sectoral Structure of Poverty Between 1990 and 1993**

Primary Income Source <sup>a</sup>			Population Shares <sup>b</sup>		Headcount Index		Contribution to National Poverty <sup>b</sup>		Reduction due to Sectoral Gains <sup>b</sup>
			1990	1993	1990	1993	1990	1993	
1. Farming	L <sup>c</sup>	U <sup>d</sup>	1.2	1.1	23.1	20.2	1.5	1.8	0.6
		R <sup>d</sup>	7.9	6.9	32.4	25.3	13.2	13.6	8.8
	SE <sup>c</sup>	U	2.1	1.9	20.3	13.8	2.1	2.0	2.1
		R	40.3	36.0	27.3	20.7	55.5	56.5	41.7
2. Mining	L	U	0.4	0.4	8.6	1.7	0.2	0.1	0.4
		R	0.4	0.4	10.4	12.6	0.2	0.3	-0.1
3. Industry	L	U	3.2	3.4	10.5	4.0	1.7	1.1	3.3
		R	2.0	2.6	15.1	10.3	1.5	2.1	1.5
	SE	U	0.7	0.7	14.6	3.8	0.5	0.2	1.2
		R	1.8	2.0	25.2	16.9	2.3	2.6	2.3
4. Construction	L	U	1.9	2.3	15.3	6.6	1.5	1.2	2.6
		R	2.1	2.5	17.3	12.4	1.8	2.4	1.6
	SE	U	0.3	0.3	11.0	7.5	0.2	0.2	0.2
		R	0.2	0.3	16.5	7.5	0.2	0.2	0.3
5. Trade	L	U	1.3	1.6	7.3	1.9	0.5	0.2	1.0
		R	0.4	0.6	16.1	8.1	0.3	0.4	0.5
	SE	U	5.6	6.4	9.3	5.5	2.7	2.8	3.3
		R	6.9	6.9	14.7	7.8	5.2	4.2	7.4
6. Transportation	L	U	1.5	1.8	6.8	3.6	0.5	0.5	0.7
		R	1.0	1.0	12.4	9.7	0.6	0.8	0.4
	SE	U	1.4	1.6	18.8	8.4	1.4	1.0	2.3
		R	1.4	1.5	14.2	8.1	1.0	1.0	1.4
7. Finance	L	U	0.7	0.9	1.1	0.4	0.0	0.0	0.1
		R	0.1	0.2	6.7	4.3	0.0	0.1	0.1
8. Services	L	U	6.9	7.8	4.1	2.0	1.4	1.2	11.4
		R	5.4	5.5	6.6	4.2	1.8	1.8	2.0
	SE	U	1.3	1.4	12.6	5.5	0.8	0.6	1.4
		R	0.9	1.1	17.9	8.0	0.8	0.7	1.4
All Indonesia			--	--	19.2	12.6	--	--	--
Population Shifts									12.0
Interaction Effects									-0.3

Notes:

<sup>a</sup> Sector Definitions:

- |   |   |
|---|---|
| 1. farming, husbandry, hunting, and fishing | 5. wholesale, retail, restaurant, and hotel                   |
| 2. mining and excavating                    | 6. transportation, warehousing, and communication             |
| 3. industrial processing                    | 7. finance, insurance, office rental, and office services     |
| 4. construction                             | 8. community services, social services, and personal services |

<sup>b</sup> Components do not add up precisely to 100 percent because several sectors are omitted due to small sample and because of rounding.

<sup>c</sup> L = laborer/employee (i.e., wage-earner); SE = self-employed

<sup>d</sup> U = Urban; R = Rural

Sources: SUSENAS, 1990; 1993.

remained relatively poor. The incidence of poverty was 25.3 percent among wage-earning farm households and 20.7 percent among self-employed farm households in 1993, compared with an average of 12.6 percent across sectors.

Because self-employed and wage-earning farm households together made up the single largest population block in 1990 and 1993, the rural farm sector comprised the largest single segment of poor people in Indonesia. In both 1990 and 1993, self-employed and wage-earning farmers in rural areas made up roughly 70 percent of all the remaining poor in Indonesia. While the share of the population in rural agriculture declined from 52.1 to 42.9 percent in the decade between 1984 and 1993, this pattern is largely consistent with evidence from 1984 and 1987 (Huppi and Ravallion, 1991).<sup>6</sup>

Several other sectors also had relatively high headcount ratios, although the numbers of poor are much lower than in rural agriculture. For example, households in urban agriculture, both wage-earning and self-employed, had low per capita expenditure levels and high headcount ratios, particularly compared with households in other urban sectors. However, together the poor in these sectors comprised less than 4 percent of Indonesia's poor in 1990 and 1993. In rural areas, households whose primary income source is self-employed mining or self-employed industry also had relatively high incidences of poverty. Again, however, these two groups together comprised only about 3 percent of all remaining poor in Indonesia.

From the perspective of the labor market, 27.6 percent of the remaining poor lived in households that derived their incomes primarily from wage employment in 1993. Nearly half of these households derived their main income as rural farm laborers. In contrast, 72.4 percent of all remaining poor lived in households deriving the bulk of their income from self-employed enterprises. Over three-quarters of these poor derived most of their income from work in rural, self-employed agriculture.<sup>7</sup>

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<sup>6</sup> The poverty lines used in Huppi and Ravallion (1991) are not directly comparable with those used here. Nonetheless, tests of alternative poverty lines on the 1993 data indicate that the general pattern described here is robust to different measures of poverty (Appendix 2).

<sup>7</sup> Analysis of the sectoral structure of poverty was conducted on female and male-headed households separately to assess the extent to which patterns of poverty differed by headship in 1993. In 1993, approximately 9 percent of households in Indonesia reported being female headed. At the aggregate level, there were no significant differences in the incidence of poverty across male- and female-headed households. Because of small cell sizes among female-headed households for over half the sectors, reliable estimates of poverty across sectors is not possible. Nonetheless, several findings for the larger sectors are worth reporting. For example, whereas the headcount index was nearly identical for male- and female-headed households in rural agriculture, both among wage-earning and self-employed households, the incidence of poverty in urban agriculture was significantly higher among female-headed households. In addition, while both male- and female-headed households are concentrated in rural agriculture, a relatively higher proportion of female-headed households were concentrated in wage-earning agriculture. Since wage-earning farm households tend to be characterized by little or no access to agricultural land (Timmer, et al, 1992), this finding suggests that female-headed farm households had somewhat poorer access to agricultural land than did male-headed households. Female-headed households were also relatively concentrated in self-employed trading activities in rural and urban areas.

But how important has the labor market been to recent reductions in poverty? The decomposition analysis indicates that between 1990 and 1993 about 88 percent of the reduction in aggregate poverty was due to within sector improvements in welfare, while 12 percent of national poverty reduction was due to population shifts from one sector to another (Table 1).<sup>8</sup> From a sectoral standpoint, the single largest gain was experienced by self-employed farm households in rural areas. Declines in poverty within rural self-employed farm households made up 42 percent of all within-sector gains over the period and roughly 37 percent of aggregate poverty reduction between 1990 and 1993. The next largest contributions to reductions in national poverty were in the urban service and rural farm wage sectors. Reductions in poverty within each of these sectors accounted for about 11 and 9 percent, respectively, of intrasectoral gains during the period. Together, gains in these sectors comprised about 18 percent of the decline in aggregate poverty between 1990 and 1993.

Declines in poverty attributable to population shifts were overwhelmingly the result of movements out of rural agriculture into non-agricultural sectors in both urban and rural areas. The largest effects were associated with movements into wage-earning construction, urban services, and rural industry. Movements into self-employed trade in urban areas also made a substantial contribution to the population shift effects.

From the perspective of the labor market, nearly 35 percent of intrasectoral gains came from households earning primarily in wage sectors (as opposed in self-employed sectors). This accounted for roughly 31 percent of the decline in aggregate poverty between 1990 and 1993. At the same time, about 7.5 percent of the reduction in national poverty was related to population movements into wage sectors. Thus, in total, roughly 38.5 percent of the reduction in the headcount index between 1990 and 1993 may be linked to labor market activities of one form or the other. It is worth noting, however, that over 20 percent of this impact resulted from intrasectoral gains to wage-earning agricultural households. From a policy perspective, it is not clear that the welfare of these farm labor households would be responsive to labor market policies, since such policies are rarely enforceable in agriculture or informal sector enterprises.

In order to facilitate direct comparisons with Huppi and Ravallion's (1991) findings for the 1984-1987 period, decomposition analysis was also conducted on the 1990 and 1993 SUSENAS data using the same real poverty lines adopted in their paper. This analysis indicates that the importance of wage labor markets in reducing poverty has increased over the last decade. For example, applying the Huppi and Ravallion poverty lines, over 28 percent of decline in the national headcount index between 1990 and 1993 was due to intrasectoral gains among wage-earning households. This was up from 21 percent between 1984 and 1987. Moreover, within-sector improvements in non-agricultural labor markets played an increasingly important role. Whereas over half of the intrasectoral gains among wage-earning households came from the agricultural sector

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<sup>8</sup> The intrasectoral and population shift effects do not sum exactly to 100 percent due to a small interaction effect (Table 1).

between 1984 and 1987, only about a third of such gains came from the agricultural labor households during the 1990-1993 period.<sup>9</sup>

Thus, while improvements in living standards in self-employed sectors continue to make the greatest impact on aggregate poverty reduction in Indonesia, labor markets are playing an increasingly important role. Between 1990 and 1993, the SUSENAS data suggest that between 35 and 40 percent of the aggregate decline in poverty was due either to within-sector gains or population shifts into wage sectors. While some wage sectors, such as in agriculture, are not easily amenable to policy, perhaps as much as a third of the total decline in poverty between 1990 and 1993 can be linked to wage sectors that are potentially responsive to labor market policies.

#### **4. Labor Market Activity Among the Poor in Rural Agriculture**

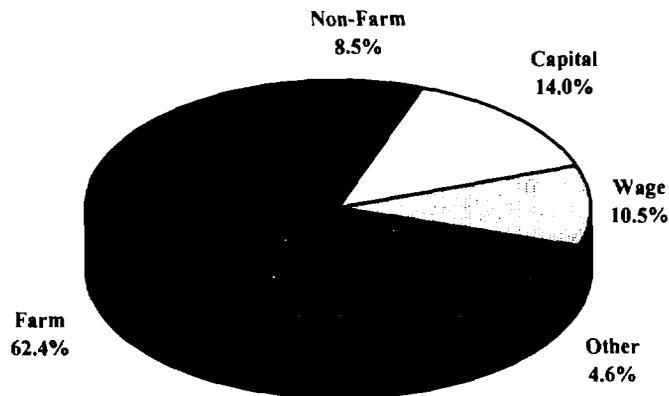
The preceding discussion on the sectoral structure of poverty defined sectors according to households' *main* income sources as declared by respondents in the 1990 and 1993 SUSENAS surveys. Households commonly have multiple sources of income, however. Failing to take that into account might lead to incorrect inferences about the role of labor market earnings in the welfare of the poor since a household whose main source of income is own-farm agriculture, may well contain individuals who work in non-farm enterprises or earn in the labor market. Likewise, households whose main source of income is farm labor may have secondary incomes from self-employed enterprises. Since agricultural sector continues to have the largest number of poor people, a closer look at farm households' links to the labor market is warranted.

The 1993 SUSENAS data suggest that while self-employed farm households obtain most of their income from farm production, the average farm household has multiple sources of income. Across Indonesia, self-employed farm households obtain about 62 percent of their income from farming activities (Figure 1). The other 38 percent of farm households' income was comprised of non-wage, non-farm income, returns on capital, wage earnings, and other, miscellaneous sources of income. In 1993, non-wage, non-farm income -- including income from handicrafts, cottage industry, trading, and so on -- comprised about 8.5 percent of self-employed farmers' income portfolio; returns to capital made up 14 percent; and miscellaneous income, including gifts and remittances, made up 4.6 percent. Wage earnings made up 10.5 percent of total income among rural self-employed farmers, on average.

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<sup>9</sup> Population shifts into wage sectors may have played a slightly smaller role between 1990 and 1993 than they did during the 1984-87 period -- although not enough to offset increases in within-sector gains to labor households. Lack of disaggregated data in Huppi and Ravallion (1991) make conclusive analysis of the population shift effects impossible. (See Appendix 2 for the 1993 headcount index and contribution to national poverty using the Huppi and Ravallion (1991) real poverty lines.)

**Figure 1: Income Sources of Rural Self-Employed Farmers in Indonesia, 1993**



Source: SUSENAS, 1993.

The contribution of wage income to total income varies considerably across self-employed farm households, by province, as well as across poor and non-poor households. The importance of wage income for self-employed farmers has also been changing over time. To better understand these variations, Table 2 presents the data on the contribution of wage income to the total income among self-employed farm household for 4 selected provinces, Central Java, East Java, East Nusa Tenggara, and West Kalimantan. Huppi and Ravallion (1991) developed detailed income profiles for self-employed farmers in these 4 provinces for 1984 and 1987. Table 2 builds upon that earlier analysis. Huppi and Ravallion (1991) chose to analyze Central and East Java because these two provinces had experienced significant progress in reducing poverty among self-employed farmers between 1984 and 1987. They chose to analyze East Nusa Tenggara and West Kalimantan because the former had a relatively high incidence of poverty among self-employed farmers in 1987, while the latter had a relatively low incidence of poverty among self-employed farmers in 1984. The choice of these four provinces for this paper is attractive because analysis using 1990 and 1993 data provides a view of trends in wage income among self-employed farmers over the 1984 to 1993 period. Moreover, the provinces provide a good overview of the economic diversity that characterizes Indonesia.

Table 2 is divided into two sections. The first presents wage income as proportion of total income in the income portfolios of poor and non-poor farmers over the 1984 to 1993 period. The second section presents an index of real wage income among self-

employed farmers for the same period.<sup>10</sup> For the sake of comparability with the earlier analysis, “poor” and “non-poor” are defined here in 1984 real terms according to the poverty measures adopted by Huppi and Ravallion (1991). The population shares shown in column 3 of the table indicate the proportions of the self-employed farm populations defined as below and above the poverty line in 1984. Other poverty lines tested on the 1990 and 1993 data, however, indicate similar trends in wage earnings for the poor and non-poor over time and across provinces.

The income profiles of self-employed farmers in Central and East Java indicate that the role of wage income has increased between 1984 and 1993 for both the poor and the non-poor (Table 2). Among the poor in Central Java, the share of wage income in total income rose sharply between 1984 and 1987, from about 12 to 20 percent, as wage income nearly doubled in real terms. While real wage income in these poor households continued to increase between 1987 and 1993, it did so much more slowly; in fact, between 1990 and 1993, the share of wage income had declined slightly from 20 to 19 percent. The poor in East Java experienced similar patterns of growth in the share of wage income over the 1984 to 1993 period -- although real wage income appears to have grown more slowly than in Central Java. Between 1984 and 1993, the share of wage income in total income among the “1984 poor” had grown from 14.5 to 17.7 percent.

The share of wage income among the 1984 “non-poor,” both in East and Central Java, also grew steadily over the period, from just over 9 to nearly 15 percent of total income. It is worth noting that while the share of wage income among “poor” households was higher than among “non-poor” households over the entire period, the absolute Rupiah value was lower. By 1993, the value of wage income was, on average, 48 percent higher in “non-poor” than in “poor” households in Central Java, and 61 percent higher in “non-poor” than in “poor” households in East Java (Appendix 3).

From the perspective of labor market earnings, income profiles among self-employed farm households in East Nusa Tenggara and West Kalimantan differ fairly significantly from those in Java -- as do trends in wage earnings over time. In East Nusa Tenggara, for example, wage earnings play a relatively minor role in the earnings profiles of self-employed farmers, regardless of whether they are poor or not. Real wage incomes did increase in relative importance over the 1984 to 1993 period. However, by 1993, wages still comprised only 5.7 percent of the total earnings portfolio of the poor and 4.4 percent of the earnings profile of the non-poor, respectively.

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<sup>10</sup> See Appendix 3 for the detailed income profiles used to derive Table 2.

**Table 2: Wage Income Among Rural Self-Employed Farmers in Central Java, East Java, East Nusa Tenggara, and West Kalimantan**

		Share of Population	1984	1987	1990	1993
<b>Wage Income as a Proportion of Total Income</b>						
Central Java	Poor	65.3	12.2	19.6	20.0	19.0
	Non-Poor	34.7	9.3	11.6	14.8	14.7
East Java	Poor	53.8	14.5	16.1	15.9	17.7
	Non-Poor	46.2	9.6	12.1	9.3	14.6
East Nusa Tenggara	Poor	65.3	1.9	2.9	2.4	5.7
	Non-Poor	34.7	1.8	3.5	4.5	4.4
West Kalimantan	Poor	26.1	11.9	7.0	15.6	9.2
	Non-Poor	73.9	8.1	15.0	16.3	14.0
<b>Index of Wage Income (1984=100)</b>						
Central Java	Poor	65.3	100.0	193.1	231.9	236.2
	Non-Poor	34.7	100.0	138.7	236.8	211.2
East Java	Poor	53.8	100.0	126.1	156.7	156.1
	Non-Poor	46.2	100.0	139.7	155.2	178.5
East Nusa Tenggara	Poor	65.3	100.0	200.0	157.3	370.1
	Non-Poor	34.7	100.0	200.8	267.1	223.8
West Kalimantan	Poor	26.1	100.0	63.2	161.2	98.4
	Non-Poor	73.9	100.0	184.4	217.3	212.0

Sources: Huppi and Ravallion (1991); SUSENAS, 1990;1993 (Derived from Appendix 3, Tables 1-4).

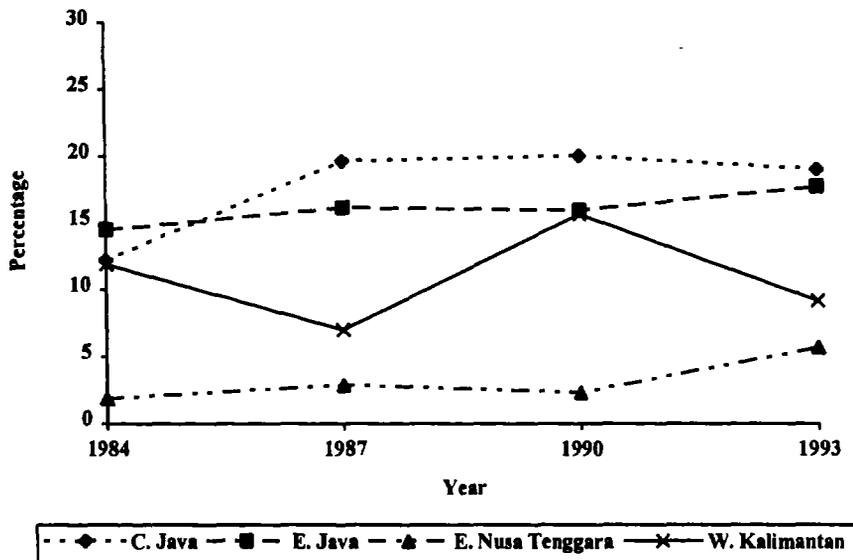
In West Kalimantan, the relative importance of wage incomes to the poor has declined over the 1984-1993 period, from 11.2 to 9.2 percent of total income. Real income from wages actually declined by 37 percent between 1984 and 1987 before rebounding to roughly 1984 levels in 1993. At the same time, wage income grew significantly among “non-poor” households engaged in self-employed farming, both in absolute terms and as a share of total income. Real income from wages more than doubled for the non-poor over the period; as a share of total income, wage earnings increased from about 8 percent in 1984 to 15 percent in 1987, declining slightly to 14 percent by 1993. In 1993, real wage earnings among non-poor farm households in West Kalimantan were more than three times higher than among poor farm households (Appendix 3).<sup>11</sup>

Together, the data suggest that the importance of wages as a proportion of total income of self-employed farmers has been growing in importance over time. However,

<sup>11</sup> The “big story” in West Kalimantan is associated with the growth of cash crop income, which contributed significantly to real income growth between 1984 and 1993. Cash crop income among the poor grew nearly two-and-a-half times over the period, and by 1993 comprised 40 percent of total income among the “1984 poor” (see Appendix 3).

the trend is weak and has not been consistently upward in all cases. While wage income among rural self-employed farmers is not trivial, it still plays a rather modest role in their income portfolios (Figure 2).

**Figure 2: Wage Income as a Proportion of Total Income:  
Poor Self-Employed Farm Households in Central Java, East Java,  
West Kalimantan, and East Nusa Tenggara, 1984-1993**



Source: Huppi and Ravallion, 1991; SUSENAS, 1990; 1993.

Another way to gauge the relative importance of labor markets to the welfare of rural farm households is to look at the proportion of economically active household members who undertake wage employment, as well as the sectors in which they work. In the 1993 SUSENAS, this can be done by examining data from a module on labor force activity. The module reports data on the main economic activity of individuals, by sector, undertaken during the week prior to the survey. Data are available for all household members age 10 or above.

According to the data, the proportion of economically active members of rural, self-employed farm households engaged in some form of wage employment was extremely low in 1993 (Table 3). Across Indonesia, only 11 percent of economically active members of such households engaged in wage employment as their main economic activity. The vast majority of workers in self-employed farm households engaged in own-farm activities. Variation in the extent of labor market activity across provinces was considerable, however. While only 2 percent of workers in self-employed farm households engaged in wage employment in Irian Jaya and Maluku, 20 percent did so in

**Table 3: Proportion of Economically Active Members of Self-Employed Farm Households in Rural Areas that Participate in the Wage Labor Market, by Province**

Province	Proportion of Economically Active Members in the:		
	Labor Force <sup>1</sup>	Wage Labor Market <sup>2</sup>	Non-Agricultural Wage Labor Market <sup>3</sup>
Aceh	0.60	0.06	0.04
North Sumatra	0.69	0.08	0.03
West Sumatra	0.68	0.12	0.05
Riau	0.69	0.08	0.03
Jambi	0.61	0.06	0.03
Bengkulu	0.59	0.07	0.03
South Sumatra	0.66	0.08	0.04
Bengkulu	0.59	0.06	0.02
Lampung	0.79	0.18	0.09
West Java	0.69	0.17	0.08
Central Java	0.57	0.10	0.05
Yogyakarta	0.69	0.15	0.08
East Java	0.72	0.20	0.17
Bali	0.67	0.12	0.05
NTB	0.48	0.05	0.03
NTT	0.52	0.03	0.03
East Timor	0.55	0.07	0.05
West Kalimantan	0.63	0.03	0.01
Central Kalimantan	0.59	0.06	0.03
South Kalimantan	0.59	0.07	0.06
East Kalimantan	0.62	0.08	0.03
North Sulawesi	0.69	0.08	0.06
Central Sulawesi	0.74	0.07	0.05
South Sulawesi	0.70	0.05	0.04
Southeast Sulawesi	0.74	0.08	0.04
Maluku	0.58	0.02	0.01
Irian Jaya	0.57	0.02	0.01
All Indonesia	0.66	0.11	0.06

Notes:

<sup>1</sup> Includes labor force participants, but not unpaid family workers, in the numerator.

<sup>2</sup> Includes only wage-earning laborers in the numerator.

<sup>3</sup> Includes only non-agricultural wage earners in the numerator.

The denominators consists of all household members who are economically active.

Source: SUSENAS, 1993.

East Java. In Central Java, East Nusa Tenggara, and West Kalimantan, the proportions were 10 percent, 3 percent, and 3 percent, respectively.

Among those from self-employed farm households whose main activity was wage employment, just over half worked in *non-agricultural* wage. In other words, on average, only 6 percent of workers from self-employed farm households in rural areas worked as employees in non-farm sectors, such as manufacturing, construction, transportation, or other services. Of these workers, 32.8 percent worked in industry, 31.6 percent worked in services, and 18.7 percent worked in construction. Again, the proportion of self-employed farm household members working in non-agricultural wage employment varied considerably across provinces. While just 1 percent worked in non-agricultural wage employment in Irian Jaya, Maluku, and West Kalimantan, 17 percent did so in East Java. About 5 percent worked in non-agricultural labor markets in Central Java, while approximately 3 percent did so in East Nusa Tenggara. In total, over 60 percent of workers in this category lived (and worked) on Java.

In contrast to rural self-employed farm households, the proportion of economically active members of *farm labor* households engaged in wage employment is reasonably high (Table 4). In 1993, 61 percent of all economically active household members engaged in some form of wage employment as their primary occupation. As with self-employed households, however, the proportion of individuals from farm labor households that engage in *non-agricultural* wage employment is very low. Only 8 percent of economically active members in these households engaged in such employment in 1993. Of those working in non-agricultural wage employment, 39.2 percent were in industry, 30.4 percent were in services, and 13.1 percent were in construction. Nearly 77 percent of these workers lived and worked on Java.

The discussion above indicates that the role of labor markets (both agricultural and non-agricultural) in the welfare of poor agricultural households remains modest. Not surprisingly, labor markets tend to play a more important role on Java than elsewhere in Indonesia. Moreover, the data suggest that full-time, formal sector employment in manufacturing or services (i.e., those most open to the influence of policy) continues to play a small part in poor farmers moving out of poverty.

It is possible, however, that the above figures understate somewhat the impact of labor markets on the welfare of the poor because they do not account for the full impact of migration and remittances of wage income on raising household living standards. The direct contribution to poverty reduction of population movements across sectors was captured by the decomposition analysis discussed above. As shown earlier, nearly 12 percent of the decline in poverty between 1990 and 1993 was due to population shifts, largely out of agriculture, into such sectors as service employment or self-employed trade activities in rural or urban areas. This decomposition analysis does not, however, pick up indirect effects associated with migration and the resulting remittance income from those who migrate. But how important is migration and resulting remittance income?

**Table 4: Proportion of Economically Active Members of Wage-Earning Farm Households in Rural Areas that Participate in the Wage Labor Market, 1993, by Province**

Province <sup>1</sup>	Proportion of Economic Active Members in the:		
	Labor Force <sup>2</sup>	Wage Labor Market <sup>3</sup>	Non-Agricultural Wage Employment <sup>4</sup>
Aceh	0.86	0.61	0.06
North Sumatra	0.92	0.60	0.08
West Sumatra	0.85	0.65	0.05
Riau	0.97	0.75	0.10
Jambi	0.84	0.52	0.12
South Sumatra	0.91	0.80	0.03
Bengkulu	0.95	0.82	0.05
Lampung	0.88	0.49	0.03
West Java	0.90	0.65	0.10
Central Java	0.92	0.74	0.10
Yogyakarta	0.93	0.73	0.07
East Java	0.91	0.71	0.07
Bali	0.96	0.60	0.10
NTB	0.88	0.59	0.07
NTT	0.76	0.59	0.22
East Timor	1.00	0.35	0.35
West Kalimantan	0.83	0.56	0.02
Central Kalimantan	1.00	1.00	0.00
South Kalimantan	0.88	0.52	0.02
East Kalimantan	0.86	0.58	0.11
North Sulawesi	0.94	0.67	0.06
Central Sulawesi	0.92	0.77	0.31
South Sulawesi	0.91	0.63	0.07
Maluku	1.00	0.71	0.11
Irian Jaya	1.00	1.00	0.00
All Indonesia	0.91	0.61	0.08

Notes:

<sup>1</sup> Southeast Sulawesi not included due to a small number of observations.

<sup>2</sup> Includes labor force participants, but not unpaid family workers, in the numerator.

<sup>3</sup> Includes only wage-earning laborers in the numerator.

<sup>4</sup> Includes only non-agricultural wage earners in the numerator.

The denominators consists of all household members who are economically active.

Source: SUSENAS, 1993.

Several recent studies suggest there is significant rural-to-urban migration in Indonesia, at least among certain sub-populations. For example, a recent World Bank study (1994) estimated that as many as 14 million people migrated out of rural Java during the 1980s, mostly into urban centers on Java, but also to other islands. The study also found net outflows from rural areas and net inflows into urban areas off of Java, although on much smaller scales. While some of this movement from rural to urban areas is apparently the result of reclassification of rural areas as urban (Gardiner, 1994), the estimates suggest significant migration is taking place. These findings are consistent with recent anecdotal accounts of extensive migration from rural areas to manufacturing and services jobs in Jakarta, Bogor, Bandung, Solo, and Surabaya (Collier, et al., 1993). In fact, for at least some poor areas, as much as 75 percent of young primary and secondary school graduates are reported to leave their villages in search of work in Jakarta or other urban centers of Java (Timmer, et al., 1992; field notes, 1995).<sup>12</sup> Moreover, at least two recent studies of women workers suggest that the proportion of migrants sending remittances is quite high -- at least among females. For example, Indrasari (1991; reported in Pangestu and Hendyio, 1996) found that nearly all female migrants surveyed sent some money home "as a token of appreciation and respect" (p.13). In a separate study, Pangestu and Hendyio (1996) found that nearly 70 percent of female migrants interviewed remitted some earnings.

But does this translate into significant remittance income for those who remain in poor farm households in rural areas? The 1993 SUSENAS data suggest that remittances do not contribute substantially to the welfare of poor farm households. Very few households report receiving remittances and, for those that do, remittance income contributes only marginally to total income. For example, only 11 percent of farm households in Indonesia report receiving remittance income of any kind; and for these households, remittances make up only about 2 percent of their income portfolio. Moreover, the data suggest that remittance income is actually less important to total income of poor households than of non-poor households. Remittances make up 2.5 percent of total income among the non-poor as compared with 1.2 percent of total income among the poor.<sup>13</sup>

## **5. Unemployment, Underemployment and the Poor**

Recent labor force and census data from Indonesia indicate that all-Indonesia unemployment rates have been reasonably low and stable over time, ranging from 2.1 to 4.4 percent between 1985 and 1994 (Manning, 1994; SAKERNAS, 1994; Jakarta Post, 1995). Unemployment rates have tended to be much higher in urban than in rural areas;

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<sup>12</sup> This was found in regions of rural Java and Lampung, Sumatra.

<sup>13</sup> Pangestu and Hendyio (1996) indicate that the size of remittances are "not large;" seventy-five percent of respondents who remitted money sent less than Rp. 50,000 per month in 1995/96 (i.e., less than roughly Rp. 40,400 in 1993 terms). Insufficient information is available, however, to assess how large remittances were relative to the receiving households' income.

in 1994, for example, labor force data indicate that unemployment was as high as 9.2 percent in greater Jakarta. Underemployment rates, defined as the proportion of the labor force working less than 35 hours per week, have tended to be much higher than unemployment rates, averaging near 40 percent in 1990 (Population Census, 1990). Underemployment rates have tended to be more severe in rural than in urban areas, and particularly severe among those in the agricultural sector (Manning, 1994). If underemployment, however, is defined both by number of hours worked and by an individual's seeking additional work, then rates are much lower, averaging 8 percent in 1990 (Population Census, 1990).

What do these broad patterns of unemployment and underemployment imply about the poor and poverty in Indonesia? For example, does the fact that underemployment is more serious in agriculture suggest strong correlations between underemployment and poverty? To what extent is unemployment in urban areas a salient characteristic of poverty there? The new labor force module in the SUSENAS facilitates the linking of individuals' labor force characteristics, such as hours worked, with consumption levels. These labor force data, collected for several categories of wage-earners and self-employed workers and for unpaid family labor, enable one to examine relationships between poverty and hours worked, unemployment and underemployment -- relationships that could not be measured directly in the past. Since the labor force module is new and has not been used for published labor force statistics, a summary of labor force findings are presented prior to the discussion of labor force-poverty linkages to help place the poverty-related findings in context.

Although the exact numbers differ, many of the broad patterns found in the 1993 SUSENAS are consistent with those found in the Indonesian Labor Force Utilization Survey, SAKERNAS. For example, while unemployment rates are higher, on average, in the SUSENAS than in the SAKERNAS, the observed patterns across urban and rural areas are quite similar. The SUSENAS data indicate, for instance, that the unemployment rate averaged 9.1 percent in urban areas as compared to 3.7 percent in rural areas (Table 5).

As in the SAKERNAS, observed underemployment in the SUSENAS varies significantly depending upon how one defines it. For example, defined as working less than 35 hours per week, 41.7 percent of the rural workforce would be characterized as underemployed, while 20.2 percent of the urban workforce would be so characterized (Table 5). Defined as working less than 35 hours per week *and* seeking additional employment, however, only 3.4 percent of the rural workforce would be characterized as underemployed and only 2.1 percent of the urban workforce would be so defined.

From a sectoral perspective, the underemployment rates in the rural farm sectors tend to be higher than average, in both urban and rural areas.<sup>14</sup> More striking, however, is

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<sup>14</sup> An exception is self-employed farmers in rural areas, when underemployment is defined to include whether or not the person is seeking additional work.

**Table 5: Average Hours Worked, Unemployment and Underemployment," 1993: Both Males and Females (SUSENAS)**

Primary Income Source of Individual (a)		Average Hours Worked per Week		Unemployment (<1hr/wk)		Severe Underemployment (b) (<15 hrs/wk)		Severe Underemployment (c) (<15 hrs/wk)		Underemployment (b) (<35 hrs/wk)		Underemployment (c) (<35 hrs/wk)	
		Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
		<b>10 Agriculture</b>	L (d)	39.4	38.4	1.7	1.4	3.7	3.1	0.2	0.6	41.6	43.6
	SE (e)	37.6	36.2	0.4	0.4	5.7	5.9	0.5	0.4	49.1	46.8	3.2	2.4
	FW (f)	30.8	31.2	1.9	0.8	12.9	10.2	2.8	1.9	66.2	64.3	14.3	6.8
<b>20 Mining</b>	L	46.8	44.3	0.5	1.7	0.6	1.9	0.0	1.3	12.0	24.8	0.3	3.3
	SE	43.0	41.8	2.7	2.3	6.1	3.9	0.0	0.6	35.5	32.0	3.2	4.8
	FW	39.8	32.7	0.0	0.0	0.0	11.6	0.0	2.3	32.2	62.5	16.8	9.7
<b>30 Industry</b>	L	47.1	46.6	0.7	0.5	0.6	1.4	0.1	0.2	8.0	14.2	0.4	0.7
	SE	44.6	40.8	0.9	0.3	3.0	3.7	0.5	0.3	27.2	36.6	3.4	1.7
	FW	34.8	36.7	0.0	0.1	9.9	6.3	2.7	1.0	57.9	49.6	13.0	2.9
<b>40 Utilities</b>	L	43.1	43.5	0.0	0.0	2.0	0.0	1.4	0.0	17.5	14.3	5.4	0.0
	SE	42.1	36.7	2.1	0.0	7.2	8.0	0.0	0.0	35.5	43.8	11.9	7.0
	FW	43.7	47.6	21.1	3.7	5.0	2.2	4.3	0.0	20.1	33.6	7.9	23.2
<b>50 Construction</b>	L	48.6	49.7	3.1	3.2	0.7	0.4	0.3	0.1	7.1	9.2	1.5	2.0
	SE	48.4	48.1	4.5	3.1	2.3	2.0	0.8	0.9	11.5	12.7	2.8	4.3
	FW	46.9	40.0	3.7	1.2	0.8	12.2	0.8	6.8	17.9	39.1	5.4	10.0
<b>60 Trade</b>	L	51.9	52.7	0.5	1.1	1.0	1.7	0.3	0.3	7.5	12.6	1.1	1.3
	SE	51.1	47.1	0.3	0.7	2.1	2.7	0.2	0.2	22.3	29.1	1.3	1.5
	FW	42.4	40.3	1.2	0.5	8.5	10.0	3.2	2.8	42.5	48.3	9.8	7.7
<b>70 Transportation</b>	L	51.7	54.2	1.1	1.9	0.9	0.7	0.1	0.4	9.7	9.6	1.3	2.2
	SE	53.2	51.7	0.7	0.6	1.8	1.6	0.5	0.3	13.3	16.1	1.3	1.3
	FW	54.2	42.9	19.0	0.0	6.7	6.9	0.0	0.0	11.3	32.2	2.0	2.3
<b>80 Finance</b>	L	45.8	45.0	0.3	0.0	0.2	0.4	0.2	0.4	10.5	13.3	1.2	0.4
	SE	41.2	41.8	10.3	0.0	5.0	13.0	0.0	0.0	25.1	31.4	2.5	0.0
	FW	34.0	26.9	0.0	0.0	0.0	0.0	0.0	0.0	100.0	59.5	100.0	28.9
<b>90 Services</b>	L	44.4	40.5	0.5	0.8	1.5	1.7	0.3	0.7	24.7	37.1	1.9	3.3
	SE	45.6	39.6	1.7	1.5	5.3	9.4	0.8	0.9	30.2	43.3	3.9	4.6
	FW	47.8	37.6	0.9	0.0	4.6	15.8	0.5	4.2	32.0	49.3	4.8	7.8
<b>100 Other</b>	L	45.4	41.1	2.2	1.2	1.6	4.8	0.0	0.0	16.5	26.1	1.3	2.7
	SE	36.7	35.3	1.6	1.1	11.9	9.9	3.3	1.8	49.0	60.8	13.2	7.4
	FW	42.2	26.2	25.3	2.1	3.6	26.0	3.6	12.6	10.7	73.0	7.2	32.7
<b>All Indonesia</b>		46.6	38.6	9.1	3.7	2.2	5.2	0.4	0.7	20.2	41.7	2.1	3.4

Notes:

(a) Sector Definitions:

10 farming, husbandry, hunting, and fishing  
 20 mining and excavating  
 30 industrial processing  
 40 utilities  
 50 construction

60 wholesale, retail, restaurant, and hotel  
 70 transportation, warehousing, and communication  
 80 finance, insurance, office rental, and office services  
 90 community services, social services, and personal services

(b) Defined on basis of hours worked only  
 (c) Defined on the basis of hours worked and looking for more work  
 (d) L = laborer/employee (i.e., wage-earner)  
 (e) SE = self-employed  
 (f) FW = family worker

Source: SUSENAS, 1993.

that the lowest average hours worked and highest underemployment rates are found among unpaid family workers, both within and outside agriculture. This finding holds true regardless of how one defines underemployment.

In addition to “simple” underemployment, Indonesia’s Ministry of Manpower identifies “severe” underemployment as working less than 15 hours per week. Like simple underemployment, severe underemployment can also be defined to include whether a person is also seeking additional employment. If defined as working less than 15 hours per week, the incidence of severe underemployment is 5 percent in rural areas and 2.2 percent in urban areas (Table 5). If, however, severe underemployment is defined as working less than 15 hours per week *and* seeking additional work, the incidence of severe underemployment is much lower: only 0.7 and 0.5 percent for rural and urban workers, respectively. As in the case of simple underemployment, the highest rates of severe underemployment are found among unpaid family workers.

Unemployment, underemployment and severe underemployment (measured on the basis of average hours worked) are substantially higher among females than among males (Table 6). With respect to underemployment, this relates in part to women’s role as unpaid family workers. However, if the definition of underemployment includes whether or not the person is seeking additional employment, important gender differences essentially disappear. There are also clear patterns of unemployment and underemployment by age and education level. For example, open unemployment is far more prevalent among those under age 24 than those above, and among those with secondary education or above (Table 7). This pattern of unemployment has been observed in other studies (e.g., McMahan and Boediono, 1992) and is suggestive of queuing for jobs among first-time job holders, particularly for jobs requiring relatively high education.

The data suggest weak linkages between unemployment and poverty (Table 8). In fact, patterns of unemployment are stronger across urban and rural areas and males and females than across the poor and non-poor. Only in the case of males in urban areas are unemployment rates higher among the poor than the non-poor and, then, only marginally so. In this case (and the other cases), the differences across poor and non-poor are not statistically significant. At the same time, significant differences are observed between the poor and non-poor in terms of underemployment and severe underemployment -- at least when defined purely in terms of hours worked per week. For example, at 47.1 percent, underemployment rates in rural areas are about 16 percent higher among the poor than among the non-poor; at 33.3 percent, underemployment rates among the urban poor are about 79 percent higher than those among the non-poor (Table 8). In terms of underemployment, the largest differences between the poor and non-poor occur in urban areas and among women. Poor women in rural experience particularly high rates of underemployment, defined in terms of hours worked. At 58 percent, the underemployment rate among poor rural women is 41 percent higher than the all-Indonesia average for rural areas (Table 8 and Table 5).

**Table 6: Average Hours Worked, Open Unemployment, Severe Underemployment and Underemployment 1993<sup>1</sup>**

	Male		Female	
	Urban	Rural	Urban	Rural
Average Hours Worked	47.1	40.2	45.4	35.6
Open Unemployment (%)	7.8	2.9	11.5	5.3
Severe Underemployment <sup>2</sup> (%)	1.7	4.1	3.1	7.3
Severe Underemployment <sup>3</sup> (%)	0.4	0.6	0.5	0.9
Underemployment <sup>2</sup> (%)	16.7	36.2	26.7	52.2
Underemployment <sup>3</sup> (%)	1.9	3.4	2.6	3.7

Notes:

<sup>1</sup> Consistent with the definitions used by CBS, unemployment is defined as working less than 1 hour per week. Two definitions of underemployment and severe underemployment are used. The first is based solely on the basis of hours worked. A person is considered underemployed, for example, if they work less than 35 hours per week. Under the second definition a person is considered underemployed if they work less than 35 hours per week and are looking for more work. The two definitions of severe underemployment are analogous to those for underemployment, except the hours worked per week criterion is based on working less than 15 hours per week. See notes 2 and 3, below.

<sup>2</sup> Defined on the basis of hours worked only.

<sup>3</sup> Defined on the basis of hours worked *and* looking for more work.

Source: SUSENAS 1993

This story changes considerably, however, when underemployment and severe underemployment are defined to include the criterion “seeking additional employment.” Not only do underemployment and severe underemployment rates drop dramatically, but absolute differences between the poor and non-poor largely disappear (Table 8). In all cases -- for both poor and non-poor alike -- the underemployment rate is less than 4.0 percent and the severe underemployment rate is less than 1.0 percent. Hence, whether one considers underemployment or severe underemployment salient characteristics of the poor is determined critically by whether one adopts definitions of underemployment and severe underemployment based solely on an hours worked criterion or whether one also includes the individual’s desire to work more hours.

**Table 7: Average Hours Worked, Unemployment, and Underemployment, by Age and Education Level, 1993, (Males and Females)**

	Average Hours Worked		Unemployment		Severe Unemployment <sup>2</sup> (Percentage)		Severe Underemployment <sup>3</sup> (Percentage)		Underemployment <sup>2</sup> (Percentage)		Underemployment <sup>3</sup> (Percentage)	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
<b>Age Cohort</b>												
10-14	45.9	29.8	18.1	10.9	4.3	12.9	1.2	2.7	24.1	60.5	2.2	6.0
15-19	50.4	36.0	25.1	11.3	2.1	6.9	0.8	1.6	14.2	43.8	3.3	7.8
20-24	48.0	38.8	25.8	10.4	1.9	5.1	1.1	1.5	13.7	37.2	3.8	6.9
25-29	46.8	39.5	11.0	3.7	1.5	4.1	0.8	1.0	18.4	37.8	3.1	4.1
30-39	46.7	40.5	2.8	1.2	1.8	3.7	0.4	0.4	20.3	37.0	1.5	2.3
40 and Over	46.0	38.4	1.7	0.8	2.8	5.6	0.2	0.2	25.1	45.5	1.1	1.4
<b>Education Level</b>												
No Schooling	44.1	36.0	2.8	1.0	4.9	6.6	0.0	0.2	36.3	50.6	1.2	1.9
Incomplete Primary	47.7	38.3	5.4	1.8	3.1	5.4	0.4	0.6	24.8	42.7	1.9	2.5
Complete Primary	49.9	39.8	5.4	3.2	2.2	4.2	0.4	0.5	18.0	38.4	1.7	3.4
Lower Secondary	48.9	39.4	10.3	5.4	1.9	4.8	0.5	1.2	15.8	37.4	2.3	5.3
Upper Secondary	45.2	39.3	17.8	14.3	1.7	3.9	0.8	2.1	16.9	33.8	2.9	7.5
Above Upper Secondary	41.4	35.8	12.9	13.2	1.5	3.7	0.7	1.8	22.2	42.7	3.1	8.3

**Notes:**

<sup>1</sup> Consistent with the definitions used by CBS, unemployment is defined as working less than 1 hour per week. Two definitions of underemployment and severe underemployment are used. The first is based solely on the basis of hours worked. A person is considered underemployed, for example, if they work less than 35 hours per week. Under the second definition a person is considered underemployed if they work less than 35 hours per week and are looking for more work. The two definitions of severe underemployment are analogous to those for underemployment, except the hours worked per week criterion is based on working less than 15 hours per week. See notes 2 and 3, below.

<sup>2</sup> Defined on the basis of hours worked only.

<sup>3</sup> Defined on the basis of hours worked *and* looking for more work.

Sources: SUSENAS 1993. (See Appendix 4 for a breakdown of the data by gender.)

**Table 8: Average Hours Worked, Unemployment, and Underemployment, 1993, by Poor and Non-Poor<sup>1</sup>**

	Average Hours Worked		Unemployment		Severe Unemployment <sup>2</sup> (Percentage)		Severe Underemployment <sup>3</sup> (Percentage)		Underemployment <sup>2</sup> (Percentage)		Underemployment <sup>3</sup> (Percentage)	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
<b>Males and Females</b>												
Poor	45.3	36.7	9.5	2.9	4.9	5.9	0.4	0.7	33.3	47.1	3.4	3.5
Non-Poor	46.8	39.0	9.1	3.9	2.1	5.0	0.4	0.8	18.6	40.6	2.0	3.4
<b>Males Only</b>												
Poor	44.0	38.4	8.8	2.3	3.7	4.7	0.4	0.7	27.7	40.8	3.2	3.8
Non-Poor	47.3	40.5	7.8	3.0	1.6	4.0	0.4	0.7	16.2	35.3	1.8	3.3
<b>Females Only</b>												
Poor	39.2	33.4	10.8	4.0	7.1	8.3	0.4	0.6	43.8	58.8	3.7	2.9
Non-Poor	45.7	36.1	11.6	5.6	3.0	7.1	0.6	0.9	25.9	51.1	2.5	3.4

**Notes:**

<sup>1</sup> Consistent with the definitions used by CBS, unemployment is defined as working less than 1 hour per week. Two definitions of underemployment and severe underemployment are used. The first is based solely on the basis of hours worked. A person is considered underemployed, for example, if they work less than 35 hours per week. Under the second definition a person is considered underemployed if they work less than 35 hours per week and are looking for more work. The two definitions of severe underemployment are analogous to those for underemployment, except the hours worked per week criterion is based on working less than 15 hours per week. See notes 2 and 3, below.

<sup>2</sup> Defined on the basis of hours worked only.

<sup>3</sup> Defined on the basis of hours worked *and* looking for more work.

Sources: SUSENAS 1993

## 6. Conclusion

The majority of poor remain in agricultural or self-employed households in Indonesia. In 1993, about 70 percent of the remaining poor came from rural agricultural households and 80 percent of these were involved primarily in self-employed farming. Moreover, the largest contribution to poverty reduction between 1990 and 1993 came from intrasectoral welfare gains to self-employed farm households. Within-sector gains to self-employed farm households in rural areas, alone, accounted for approximately 37 percent of the decline in aggregate poverty. And combined with other sectors, roughly 57 percent of the decline in national poverty was due to intrasectoral improvements among self-employed households. Population movements into self-employed activities, such as urban trade or rural and urban services, also contributed to declines in poverty.

While welfare improvements in self-employed sectors continue to make the largest contribution to aggregate poverty reduction in Indonesia, the data indicate that the role of the labor market has increased since the mid-1980s. Between 1990 and 1993, about 38.5 percent of the decline in national poverty was due to intrasectoral gains among predominantly wage-earning households or households shifting into wage sectors.<sup>15</sup> In addition, even self-employed farm households rely on wage earnings to some extent. Wage earnings as a percentage of total income remain modest among self-employed farm households -- about 10 percent on average across Indonesia -- and are more important on than off Java. Nevertheless, the SUSENAS data suggest that wage earnings among self-employed farm households have grown over the last decade. In fact, in certain instances, these wage earnings clearly have had important effects on the welfare of the poor. For example, increases in wage earnings between 1984 and 1987 were critical to reducing poverty among self-employed farmers in Central Java (Huppi and Ravallion, 1991).

What do these findings imply for policy in the context of the Government of Indonesia's poverty alleviation efforts? Because poverty remains largely an agricultural and self-employed phenomenon, the most effective way for policy to contribute to poverty reduction is to focus on improving the operation of product, land or capital markets -- particularly where monopolies reduce farm profitability or viability (e.g., cloves, oranges) or where excessive regulations raise costs or inhibit entry to productive enterprises among the poor. For example, a recent study of rural poverty found that regulations affecting the livestock industry are inhibiting the growth of a smallholder livestock sector in Eastern Indonesia, while insecurity of land tenure is inhibiting long-term productive investments in agriculture (Timmer, et al, 1992). Distortionary regulations affect not only the welfare of self-employed farmers or traders, but often have important spill-over effects into agricultural labor markets. The monopoly on citrus trade in West Kalimantan, for example, has reduced farmers' incomes and depressed the local economy. Not only has the monopoly had serious impacts on the welfare of poor, small-scale citrus farmers and traders, but on farm and off-farm employment opportunities for landless laborers (Bennett and Hasan, 1993).

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<sup>15</sup> Roughly 80 percent of this decline was linked to households in non-agricultural wage sectors.

At the same time, wage labor markets can be expected to have an increasingly important impact on the welfare of the poor -- as the economy continues to undergo structural change and as the workforce continues to move out of agriculture into manufacturing and services. This impact will result in part from the absorption of workers from low productivity activities in agriculture into higher productivity activities other sectors. Over time, movement of labor out of agriculture into other sectors can also be expected to drive up productivity and wages within the agriculture sector itself. Labor market policies can thus play a critical role in the Government's efforts to reduce poverty by helping to facilitate labor mobility across sectors.<sup>16</sup> In this context, it is important to highlight the potentially counterproductive impact of raising the minimum wage on the Government of Indonesia's poverty reduction efforts. A recent empirical study found evidence suggesting that increases in the minimum wage have a negative impact on the employment growth in Indonesia, particularly among small firms (Rama, 1996). As such, using minimum wage policy to ensure high wages for a limited number of (mostly non-poor) workers will almost certainly diminish the poverty reducing potential of the labor market. The Government of Indonesia would do better to focus on fostering continued labor-absorbing growth, strengthening the human capital of the poor, and improving labor mobility across sectors and regions.

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<sup>16</sup> Labor market policies may not play a significant role across all sectors. For example, agriculture and informal sector labor markets will not be particularly amenable to policy interventions, at least in the short run.

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## **Appendices**



## Appendix 1

**Table A1.1: Summary Data on Sectors of Employment, 1990 and 1993<sup>a</sup>**

Income Source <sup>b</sup>			Mean Per Capita Expenditure <sup>c</sup>		Mean Per Capita Income	
			1990	1993	1990	1993
1. Farming	L <sup>d</sup>	U <sup>e</sup>	37,368	40,448	40,955	47,811
		R <sup>e</sup>	26,673	27,261	29,640	31,084
	SE <sup>d</sup>	U	36,023	39,908	42,100	48,938
		R	28,257	29,653	34,548	34,374
2. Mining	L	U	70,801	100,421	92,781	140,224
		R	37,403	59,002	40,773	71,343
3. Industry	L	U	58,103	60,927	67,842	70,967
		R	33,830	34,608	39,762	44,782
	SE	U	55,249	61,546	80,147	86,352
		R	31,180	33,272	38,907	46,399
4. Construction	L	U	50,927	53,968	62,442	62,379
		R	30,302	33,757	35,958	41,193
	SE	U	54,863	63,117	69,157	98,255
		R	36,177	37,325	43,437	51,731
5. Trade	L	U	70,433	76,038	79,914	87,394
		R	34,164	44,171	37,208	51,446
	SE	U	54,931	61,291	70,837	84,315
		R	36,065	38,051	45,511	50,925
6. Transportation	L	U	58,568	64,837	63,909	78,422
		R	34,553	40,959	38,824	47,092
	SE	U	43,296	48,406	55,544	57,631
		R	35,013	39,332	40,502	48,969
7. Finance	L	U	98,796	113,000	135,823	133,868
		R	40,794	49,000	47,122	62,414
8. Services	L	U	61,891	72,606	72,385	85,172
		R	43,284	48,169	54,540	60,699
	SE	U	54,355	61,582	66,853	74,594
		R	35,088	38,096	41,810	43,460
All Indonesia			38,138	43,790	46,282	53,507

Notes:

<sup>a</sup> All figures are presented in 1993 real terms.

<sup>b</sup> Sector Definitions:

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>1. farming, husbandry, hunting, and fishing</li> <li>2. mining and excavating</li> <li>3. industrial processing</li> <li>4. utilities</li> <li>5. construction</li> </ul> | <ul style="list-style-type: none"> <li>6. wholesale, retail, restaurant, and hotel</li> <li>7. transportation, warehousing, and communication</li> <li>8. finance, insurance, office rental, and office services</li> <li>9. community services, social services, and personal services</li> </ul> |
|--|--|

<sup>c</sup> Components do not add up precisely to 100 percent because several sectors are omitted due to small sample and because of rounding.

<sup>d</sup> L = laborer/employee (i.e., wage-earner); SE = self-employed

<sup>e</sup> U = Urban; R = Rural

Sources: SUSENAS, 1990; 1993.

## Appendix 2

### Sensitivity of the Sectoral Structure of Poverty to Different Poverty Measures

Several different poverty lines were used to test the robustness of the sectoral structure of poverty to different definitions of poverty. Two alternative measures are presented in this appendix: 1) the official Government of Indonesia's poverty line for 1993 and 2) the same real poverty lines applied in Huppi and Ravallion (1991). The Government of Indonesia poverty measure attempts to take into account regional price variations as well as regional consumption bundles in measuring poverty across provinces. This resulted in distinct poverty lines for each province, as well as between each rural and urban area in a province. Huppi and Ravallion (1991) applied a single poverty line for all of urban Indonesia and another one for all of rural Indonesia. The official poverty measures are presented here because they represent the Government of Indonesia's own assessment of poverty in Indonesia, while the Huppi and Ravallion measures are presented to enable direct comparisons between the current analysis and Huppi and Ravallion's earlier work on the sectoral structure of poverty.

Because these two poverty lines and the one adopted in this paper were developed using different methodologies, there is no *a priori* reason to think that they would produce similar findings with respect to the incidence of poverty at the national or regional levels, or across sectors. Nonetheless, from the perspective of this study -- on the role of labor markets in the welfare of the poor -- the three measures provide remarkably consistent pictures about the importance of wage earnings among the poor. For example, the poverty lines used in this paper lead to the finding that about 70 percent of the remaining poor in Indonesia reside in rural, agricultural households, both self-employed and wage earning (Table 1). The Huppi and Ravallion poverty lines lead to the result that nearly 73 percent of remaining poor live in rural, agricultural households (Table A2.2, below). The CBS poverty lines find that about 55 percent of the remaining poor reside in rural, agricultural households (Table A2.1, below). While this is a somewhat lower figure than found using the other two poverty measures, it still indicates that over half of the remaining poor are from agricultural households. In general, the official CBS poverty lines generate relatively higher incidences of poverty in urban areas than the other two measures, and the differences in findings with respect to poverty in the agricultural sector declines somewhat if urban as well as rural agriculture are included.

In addition, all three poverty measures present a consistent picture regarding the breakdown of poverty across self-employed and wage earning households. All three sets of measures indicate that over two-thirds of remaining poverty in Indonesia occurs in households whose primary source of income comes from self-employed, not wage-earning, enterprises. The poverty lines used in the main text of this paper indicate that 72 percent of remaining poverty is among self-employed households, while the Huppi and Ravallion measures suggest that 73 percent of remaining poverty exists among self-employed households. The official CBS figures suggest that 67 percent of the remaining poor reside in households whose primary income source comes from self-employed enterprises.

**Table A2.1: The Sectoral Structure of Poverty in 1993 using official CBS Poverty Lines**

Primary Income Source <sup>a</sup>			Headcount Index	Contribution to National Poverty <sup>b</sup>
1. Farming	L <sup>c</sup>	U <sup>d</sup>	38.7	3.3
		R <sup>d</sup>	19.5	10.3
	SE <sup>c</sup>	U	30.7	4.4
		R	16.4	44.9
2. Mining	L	U	5.4	0.2
		R	12.8	0.4
3. Industry	L	U	12.6	3.3
		R	7.3	1.4
	SE	U	13.3	0.7
		R	10.7	1.6
4. Construction	L	U	20.9	3.6
		R	7.7	1.5
	SE	U	17.5	0.5
		R	6.3	0.2
5. Trade	L	U	8.0	1.0
		R	5.9	0.3
	SE	U	14.1	6.9
		R	5.9	3.1
6. Transportation	L	U	8.5	1.1
		R	5.7	0.4
	SE	U	21.2	2.5
		R	4.5	0.5
7. Finance	L	U	2.4	0.2
		R	3.5	0.1
8. Services	L	U	6.1	3.6
		R	3.3	1.5
	SE	U	14.1	1.5
		R	6.2	0.5
All Indonesia			12.8 <sup>e</sup>	--

Notes:

<sup>a</sup> Sector Definitions:

- |   |   |
|---|---|
| 1. farming, husbandry, hunting, and fishing | 5. wholesale, retail, restaurant, and hotel                   |
| 2. mining and excavating                    | 6. transportation, warehousing, and communication             |
| 3. industrial processing                    | 7. finance, insurance, office rental, and office services     |
| 4. construction                             | 8. community services, social services, and personal services |

<sup>b</sup> Components do not add up precisely to 100 because several sectors are omitted due to small sample and because of rounding.

<sup>c</sup> L = laborer/employee (i.e., wage-earner); SE = self-employed

<sup>d</sup> U = Urban; R = Rural

<sup>e</sup> Although the poverty lines used in the calculations for this table are the same as those used by CBS for 1993, the national incidence of poverty calculated here is 0.9 percentage points lower than that reported Biro Pusat Statistik (1994), which reports the Government of Indonesia's official calculations. The reason for this discrepancy is not known.

Source: SUSENAS, 1993; Biro Pusat Statistik, 1994.

**Table A2.1: The Sectoral Structure of Poverty in 1993 using Huppi and Ravallion (1991)**

**Real Poverty Lines**

Primary Income Source <sup>a</sup>		Headcount Index		Contribution to National Poverty <sup>b</sup>
1. Farming	L <sup>c</sup>	U <sup>d</sup>	12.8	1.4
		R <sup>d</sup>	20.9	14.3
	SE <sup>c</sup>	U	9.1	1.7
		R	16.4	58.5
2. Mining	L	U	0.7	0.0
		R	10.8	0.4
3. Industry	L	U	2.7	0.9
		R	8.4	2.1
	SE	U	2.9	0.2
4. Construction	L	R	12.8	2.5
		U	4.2	1.0
	SE	U	8.7	2.2
5. Trade	L	R	2.6	0.1
		U	5.5	0.2
	SE	U	4.1	2.6
6. Transportation	L	R	6.3	4.3
		U	2.4	0.4
	SE	U	7.2	0.7
7. Finance	L	R	3.9	0.6
		U	6.1	0.9
	SE	U	0.1	0.0
8. Services	L	R	2.6	0.1
		U	1.3	1.0
	SE	U	3.4	1.8
		R	2.5	0.4
		R	5.7	0.6
All Indonesia			9.8	--

**Notes:**

<sup>a</sup> Sector Definitions:

- |   |   |
|---|---|
| 1. farming, husbandry, hunting, and fishing | 5. wholesale, retail, restaurant, and hotel                   |
| 2. mining and excavating                    | 6. transportation, warehousing, and communication             |
| 3. industrial processing                    | 7. finance, insurance, office rental, and office services     |
| 4. construction                             | 8. community services, social services, and personal services |

<sup>b</sup> Components do not add up precisely to 100 because several sectors are omitted due to small sample and because of rounding.

<sup>c</sup> L = laborer/employee (i.e., wage-earner); SE = self-employed

<sup>d</sup> U = Urban; R = Rural

Source: SUSENAS, 1993; Huppi and Ravallion, 1991.

### **Appendix 3**

#### **Detailed Income Profiles for Rural Self-Employed Farmers in Central Java, East Java, East Nusa Tenggara, and West Kalimantan**

For comparability with the 1984 and 1987 income profiles reported in Huppi and Ravallion (1991), the detailed income profiles in this appendix are presented in 1984 real prices. As in the text, the proportion of the population designated as poor and non-poor are in accordance with the poverty lines used in Huppi and Ravallion (1991).

**Table A3.1: Income Sources of Rural Self-Employed Farmers in Central Java**

Year	Group	% of Pop	Farm Income	Grains	Bean & Tubers	Vegetables & Fruits	Cash Crops	Animal Husbandry	Fishery	Forest Hunting	Non-Farm	Wage	Capital	Gifts	Mean Income
1984	poor	65.3	5,149	2,310	700	299	997	581	74	188	690	1,050	1,379	361	8,629
	nonpoor	34.7	10,081	4,428	1,102	657	2,139	1,318	256	181	1,703	1,743	3,506	1,757	18,790
1987	poor	65.3	5,815	2,734	928	552	936	501	58	105	1,080	2,028	1,274	124	10,321
	nonpoor	34.7	12,318	5,525	1,137	668	2,661	1,047	1,214	67	2,720	2,417	2,789	668	20,912
1990	poor	65.3	6,678	3,514	851	468	685	874	68	239	1,399	2,448	1,436	277	12,238
	nonpoor	34.7	14,377	7,463	1,573	1,036	1,931	1,633	533	171	3,893	4,151	3,971	1,579	27,970
1993	poor	65.3	8,237	4,149	945	712	1,056	999	176	201	950	2,557	1,642	51	13,438
	nonpoor	34.7	15,871	8,861	1,394	1,457	1,720	1,892	413	134	3,782	3,795	3,791	-1,375	25,863

**Table A3.2: Income Sources of Rural Self-Employed Farmers in East Java**

Year	Group	% of Pop	Farm Income	Grains	Bean & Tubers	Vegetables & Fruits	Cash Crops	Animal Husbandry	Fishery	Forest Hunting	Non-Farm	Wage	Capital	Gifts	Mean Income
1984	poor	53.8	4,815	2,511	449	206	491	895	202	61	560	1,304	2,120	213	9,012
	nonpoor	46.2	10,789	5,148	1,298	873	1,514	1,242	664	50	1,644	1,840	4,353	618	19,244
1987	poor	53.8	5,583	2,413	959	343	812	849	72	136	556	1,644	2,260	140	10,183
	nonpoor	46.2	12,413	5,944	1,574	812	2,270	1,399	359	55	1,556	2,570	3,971	782	21,291
1990	poor	53.8	7,645	3,766	4,973	381	789	1,183	218	187	799	2,098	2,015	601	13,158
	nonpoor	46.2	17,674	9,475	1,695	859	2,562	1,761	1,035	152	3,503	2,933	4,405	3,038	31,553
1993	poor	53.8	7,762	3,931	1,020	584	815	905	372	135	930	2,186	2,269	-804	12,343
	nonpoor	46.2	17,231	9,323	2,123	1,563	1,705	1,935	573	50	2,150	3,525	3,861	-2,546	24,222

**Table A3.3: Income Sources of Rural Self-Employed Farmers in West Kalimantan**

Year	Group	% of Pop	Farm Income	Grains	Bean & Tubers	Vegetables & Fruits	Cash Crops	Animal Husbandry	Fishery	Forest Hunting	Non-Farm	Wage	Capital	Gifts	Mean Income
1984	poor	26.10	5,704	3,298	120	106	1,831	130	183	36	215	1,043	1,725	61	8,748
	nonpoor	73.90	9,981	5,434	235	214	3,008	259	586	245	1,482	1,470	5,179	95	18,207
1987	poor	26.10	6,947	3,536	132	269	2,630	31	247	103	442	659	1,275	50	9,374
	nonpoor	73.90	10,559	4,612	195	652	3,911	198	595	397	887	2,710	3,452	469	18,077
1990	poor	26.10	7,886	3,146	204	355	3,334	201	152	200	230	1,780	1,462	-408	11,436
	nonpoor	73.90	12,203	4,116	295	1,406	4,492	587	1,015	241	1,105	3,381	3,636	-129	20,682
1993	poor	26.10	9,129	3,035	185	363	4,839	193	377	137	446	1,102	1,487	-324	12,018
	nonpoor	73.90	15,053	5,185	199	1,138	5,955	384	1,902	290	1,372	3,347	4,024	42	23,840

**Table A3.4: Income Sources of Rural Self-Employed in East Nusa Tenggara**

Year	Group	% of Pop	Farm Income	Grains	Bean & Tubers	Vegetables & Fruits	Cash Crops	Animal Husbandry	Fishery	Forest Hunting	Non-Farm	Wage	Capital	Gifts	Mean Income
1984	poor	65	5,332	1,749	650	214	754	1,786	155	24	481	164	1,879	784	8,640
	nonpoor	35	12,236	3,988	1,086	562	2,269	3,869	426	36	812	374	4,713	2,468	20,603
1987	poor	65	7,592	2,245	1,114	680	1,201	2,173	97	83	659	328	1,867	889	11,335
	nonpoor	35	13,861	3,549	1,383	1,024	2,076	5,390	296	142	1,595	751	3,709	1,462	21,377
1990	poor	65	7,963	2,583	943	670	913	2,610	71	192	805	261	1,154	909	11,088
	nonpoor	35	16,205	4,240	1,791	1,229	1,565	6,632	82	508	1,546	1,010	2,385	1,393	22,532
1993	poor	65	9,641	3,087	1,654	960	1,432	2,141	229	139	1,211	784	1,905	236	13,778
	nonpoor	35	17,680	5,019	2,798	1,709	3,294	4,349	197	314	1,799	1,081	2,846	950	24,356



## **Appendix 4**

### **Average Hours Worked, Unemployment, and Underemployment by Age and Education Levels, 1993, by Gender**



**Table A4.1: Average Hours Worked, Unemployment and Underemployment, 1993, by Age and Education: Males Only (SUSENAS)**

Age Cohort/ Education Attainment	Average Hours Worked per Week		Open Unemployment (<1hr/wk)		Severe Underemployment (a) (<15 hrs/wk)		Severe Underemployment (b) (<15 hrs/wk)		Underemployment (a) (<35 hrs/wk)		Underemployment (b) (<35 hrs/wk)	
	<i>Urban</i>	<i>Rural</i>	<i>Urban</i>	<i>Rural</i>	<i>Urban</i>	<i>Rural</i>	<i>Urban</i>	<i>Rural</i>	<i>Urban</i>	<i>Rural</i>	<i>Urban</i>	<i>Rural</i>
<b>Age:</b>												
<b>10-14</b>	41.02	30.24	21.27	9.60	4.87	4.87	0.20	1.93	27.63	62.74	2.32	6.63
<b>15-19</b>	45.91	35.99	28.09	9.31	2.29	2.29	0.82	1.65	16.84	44.52	4.39	7.83
<b>20-24</b>	47.36	39.95	25.86	7.94	1.81	1.81	0.96	1.50	12.62	34.24	3.91	7.54
<b>25-29</b>	48.18	41.21	9.05	2.65	1.05	1.05	0.48	0.93	13.86	31.21	2.62	4.23
<b>30-39</b>	48.14	42.61	2.26	0.88	1.27	1.27	0.14	0.33	14.98	29.22	1.09	2.18
<b>40 and Over</b>	46.96	39.84	1.67	0.65	2.00	2.00	0.19	0.18	20.37	39.28	0.97	1.33
<b>Education:</b>												
<b>No Schooling</b>	43.72	37.50	1.99	0.68	4.47	5.96	0.04	0.17	33.05	45.43	0.94	1.71
<b>Incomplete Primary</b>	47.75	39.70	4.02	1.54	2.39	4.24	0.35	0.49	22.09	37.74	1.71	2.42
<b>Complete Primary</b>	49.54	41.07	4.29	2.72	1.88	3.45	0.29	0.52	16.42	33.71	1.26	3.36
<b>Lower Secondary</b>	49.05	40.32	8.38	4.05	1.48	4.08	0.35	1.01	13.34	33.39	2.12	4.98
<b>Upper Secondary</b>	46.74	40.43	12.68	8.46	1.12	3.72	0.48	1.61	13.72	31.87	2.27	6.42
<b>&lt; Upper Secondary</b>	42.38	37.29	7.95	6.96	1.07	2.12	0.28	1.53	19.22	39.63	2.01	6.41

Notes:

(a) Defined on basis of hours worked only

(b) Defined on the basis of hours worked and looking for more work

**Table A4.2: Average Hours Worked, Unemployment and Underemployment, 1993, by Age and Education: Females Only (SUSENAS)**

Age Cohort/ Education Attainment	Average Hours Worked per Week		Open Unemployment (<1hr/wk)		Severe Underemployment (a) (<15 hrs/wk)		Severe Underemployment (b) (<15 hrs/wk)		Underemployment (a) (<35 hrs/wk)		Underemployment (b) (<35 hrs/wk)	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
<b>Age:</b>												
10-14	49.80	29.19	26.26	12.14	3.26	15.59	0.95	2.41	21.80	62.32	3.77	6.33
15-19	53.86	35.89	22.92	14.33	2.15	7.11	0.48	2.39	12.42	44.90	2.65	8.23
20-24	48.79	36.48	29.15	17.31	1.82	6.53	0.86	1.94	14.20	41.92	3.49	6.59
25-29	44.35	36.25	15.56	6.41	2.87	5.73	1.16	0.88	24.82	49.10	3.74	3.71
30-39	43.63	36.59	4.11	1.44	2.99	6.15	0.61	0.44	33.54	51.40	2.38	2.47
40 and Over	43.68	35.20	1.89	1.01	4.17	6.97	0.24	0.24	35.84	55.14	1.30	1.48
<b>Education:</b>												
No Schooling	44.29	34.49	2.18	1.65	6.28	8.64	0.03	0.38	40.46	58.02	1.10	2.25
Incomplete Primary	47.64	35.57	4.73	2.45	4.18	7.17	0.42	0.58	31.95	54.61	1.93	2.23
Complete Primary	50.50	36.82	6.85	5.57	2.48	7.17	0.24	1.02	22.72	50.27	1.79	3.55
Lower Secondary	48.43	36.35	12.89	10.03	2.80	6.60	0.33	1.65	19.56	41.99	2.13	5.34
Upper Secondary	41.72	36.14	22.23	22.33	2.38	4.40	1.11	2.42	23.92	41.02	3.83	7.81
< Upper Secondary	39.09	32.26	13.56	15.18	1.86	6.75	0.81	2.62	30.92	48.15	4.45	10.59

**Notes:**

(a) Defined on basis of hours worked only

(b) Defined on the basis of hours worked and looking for more work

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