

# Indonesia's Labor Market During the Crisis

## Empirical Evidence from the *Sakernas*, 1997-1999

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### Introduction

**T**HE economic crisis has pushed the Indonesian economy into a deep recession in 1998 and 1999. This recession -- characterized by a sharp economic contraction, high inflation, massive currency depreciation, the collapse of the banking sector, and a large debt overhang -- gave serious impacts on both social and economic conditions of the Indonesian people. As firms and households had to adjust to the shock to the economy, a general decline in the quality of life of most people and a sharp increase in poverty and unemployment became inevitable.

Unlike adjustments to the economy that come almost instantly, social adjustments usually come with a lag. Economic crisis does not immediately turn into social problems: there is a transmission process from the former to the latter. This process has four channels of transmission: adjustments in the output market, adjustments in the labor market, the changing patterns of household income and the changing patterns of household expenditure. From an economist's point of view, these are the channels through which people's quality of life might be influenced by the crisis.

This paper will focus specifically on one particular transmission channel, i.e., adjustments in the labor market. It aims to explain adjustments in the labor market, and particularly, it seeks to answer the following questions: How have macroeconomic adjustments changed the Indonesian labor market? How much was the decline in real wages due to inflation? And finally, how has economic contraction influenced labor productivity? To answer these questions, the authors utilized Indonesia's National Labor Survey data, *Saker-nas*, produced by Indonesia's Central Board of Statistics (*Badan Pusat Statistik*, hereafter, BPS).

To understand the adjustments to the labor market, it is necessary to put them in a broader context of Indonesia's macroeconomic conditions during the crisis. Hence, the first section briefly discusses the general macroeconomic context in which the adjustments to the labor market occur. Following that, discussions are then focused on the impacts of the crisis on the labor force and employment in urban-rural areas, formal-informal sectors, between gender and by sector. Discussions include the analysis of labor displacement and also the changing structure of the labor market from 1996 until 1999. The paper ends with a short note on international labor migra-

tion and a concluding section that discusses the implications of the findings.

### Macroeconomic Context

In brief, the Indonesian economic collapse was characterized by the sharp contraction in the real sector of the economy, the movement of resources from the non-traded to traded sectors, from the import-dependent to export-oriented industries, and from the modern to traditional sectors. On the monetary side, there was also a massive monetary and price shocks in 1998. Excessive monetary expansion to bail out banks led to a hyperinflation and drastic currency depreciation. With the lack of confidence in the economy -- partly because of a non-supportive political climate, combined with an effort to reduce the currency in circulation -- the interest rates were extremely high in 1998.

These high interest rates led to further deterioration of the banks' balance sheet, and furthermore led to corporate and economic insolvency. The collapse of the financial system eventually brought about the fall in the real sectors leading to the fall in output, the decrease in employment and a large deficit of the government budget. While Indonesia shared similar problems with other Asian countries in crisis -- such as, that of credit crunch and a huge foreign debt -- a combination of the political turmoil, explosive monetary expansion, high inflation, and a massive Rupiah depreciation had, unfortunately, made the Indonesian case the worst among countries in crisis in Asia.

In 1998, the economy plunged into a deep recession with the overall growth at minus 13.7 percent -- very serious compared

Table 1

#### THE GROWTH OF GROSS DOMESTIC PRODUCT, 1996-1999

Classification	1996	1997	1998	1999 (est.)
<b>By Sector</b>				
Agriculture, Forestry and Fishery	3.0	0.9	0.2	1.01
Mining and Quarrying	5.8	2.2	-4.2	0.04
Manufacturing Industry	11.6	6.4	-12.9	1.52
Electricity, Gas and Water Supply	12.8	13.6	3.7	7.70
Construction	12.8	6.4	-39.7	1.04
Trade, Hotel and Restaurant	8.0	6.0	-19.0	-0.95
Transport and Communication	8.7	8.3	-12.8	-1.33
Financial, Ownership and Buss. Services	8.8	3.6	-26.7	-8.58
Services	3.4	2.8	-4.7	2.83
<b>By Expenditure</b>				
Private Consumption	10.9	5.5	-2.9	1.55
Government Consumption	2.7	0.1	-14.4	8.40
Gross Domestic Fixed Capital Formation	14.5	8.6	-40.9	-21.24
Change in Stock	-76.1	94.9	-137.1	-27.48
Export of Goods and Services	7.6	7.8	10.6	-32.50
Less: Import of Goods and Services	6.9	14.7	-5.4	-45.31
<i>Gross Domestic Product</i>	8.0	4.7	-13.7	0.12

Source: Central Board of Statistics

with the less than 5 percent contraction during the difficult times in the 1960s (see Table 1). The worst contraction was in the construction sector (-39.7 percent), financial sector (-26.7 percent), and trade, hotel and restaurant (-18.9 percent). Other sectors, which had large contractions, were manufacturing (-12.9 percent), and transport and communication (-12.8 percent). Mining and other services sectors experienced a contraction of around 4.5 percent. Agriculture and utility experienced a positive growth of around 0.2 and 3.7 percent respectively. The more robust performance of the resource-based sectors implied that the share of agriculture in the total GDP rose for the first time in 30 years from 16.1 percent in 1997 to close to 18 percent in 1998. The share of the mining sector also increased from 9.5 percent in 1997 to 11.4 percent in 1998. The share of industry continued to rise from 25.6 percent in 1997 to 27 percent in 1998 due to the growth from oil refining (which increased because increased refining was done domestically to save foreign exchange) and LNG.

Meanwhile, as seen on Table 2, the effect of the economic crisis on inflation had been dramatic as inflation reached 77.6 percent in 1998. Prior to the crisis, inflation

was maintained below 10 percent and in fact, during the first two months in the first half of 1997 when there was even a deflation. The increases in the prices of traded commodities, especially food, dominated the increase in the Consumer Price Index (CPI) in 1998. The prices of foodstuff, including cereals and roots, preserved fish, bean and nuts, increased by more than 118 percent. Clothing prices increased by 98.7 percent in 1998, followed by health commodities and services that increased by 86.1 percent. Housing prices increased by 47.5 percent, but the housing equipment increased by more than 126 percent. This implies that prices of the non-traded components of house, such as land, had decreased substantially.

In the last twelve months, however, there were some encouraging developments. The trend of deflation continued from March to September 1999, and the cumulative monthly inflation from January to December 1999 was only 2 percent. So the picture of inflation is exactly like an inverted V curve: a sharp increase in 1998 followed by a sharp decrease in 1999. The major source of deflation had been the decline in food prices, while prices of clothing, housing and health continued to increase even though at a smaller rate.

### Labor Market Adjustments Throughout the Crisis

It was under the aforementioned macro-economic conditions that the labor market had to adjust. The initial adjustment had been a reversal of the labor market transformation that had occurred half-a-decade before the crisis. The Indonesian labor market from 1990 to 1996 was characterized by a labor market tightening and increasing real wages. The labor market transformed rapidly: labor moved from the informal to

Table 2

#### ANNUAL INFLATION, 1996-1999

	1996	1997	1998	1999
Inflation (percent year-on-year)				
General	5.9	11.6	77.6	2.0
Food	6.1	19.9	118.4	-5.3
Housing	4.8	6.2	47.5	5.2
Clothing	5.9	7.9	98.7	6.5

Source: Bank of Indonesia, various publications.

formal sectors, from rural to urban, from primary sectors, such as agriculture to modern sectors, such as construction, manufacturing and services. The engine of growth for the labor market tightening was broad based growth in all sectors, especially in the labor-intensive manufacturing sector.<sup>1</sup>

The data suggest that during the worst time in 1998, the crisis had reversed the process of formalization into informalization and from urbanization to ruralization. The increase in unemployment was small but the correction of real wage was drastic. There are several contributing factors to the specific characteristics of labor market adjustments in Indonesia. The *first* is the flexibility of the labor market itself, in which labor turnover rate is generally high. Combined with a labor surplus economy, weak labor unions, and low reservation wages, the flexible nature of the labor market led to flexible real wages. The *second* factor that also played a major role in sharp wage adjustments is the specific overall macroeconomic condition in which excessive monetary expansions led to a high inflation and a sharp depreciation. Because of the labor market flexibility and the absence of any unemployment benefits or other forms of social security, displaced workers would have to find other jobs -- mostly with lower wages -- to survive the crisis. The data confirms the notion that many people in the formal labor market lost their jobs during the crisis, but soon found another one with a lower wage, or went to the informal sectors for some additional income.

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<sup>1</sup>The impact of rapid economic growth on labor market is discussed for example in Nisha Agrawal, "The Benefit of Growth for Indonesian Workers," World Bank Policy Research Working Paper, no. 1637 (Washington DC: World Bank, 1996). See also Chris Manning, *Indonesian Labor in Transition: An East Asian Success Story?* (Cambridge: Cambridge University Press, 1998).

The informalization and ruralization in the labor market, however, did not last very long. The data in 1999 indicated a movement out from agriculture going back to manufacturing and more urban-based sectors. There was also a movement out from the informal sector recently, but by looking at the data in two years from 1997 to 1999, the pattern of labor market informalization during the crisis is still clear. After a sharp real wage contraction in 1998, real wages started to increase in 1999 because of lower inflation. However, overall from 1997 to 1999, real wages declined by 18.5 percent while labor productivity in general declined by 14.7 percent. With the movement back to formal-urban sectors, combined with the increase in real wages, unemployment started to increase more significantly in 1999.

### Labor Force and Unemployment

The result from the *Sakernas* clearly shows that the crisis has increased labor force participation, especially for females and particularly in the rural areas. While the growth of the labor force had increased only slightly from 2.6 percent between 1990 and 1996 to 3.5 percent between 1997 and 1998, the growth of the labor force in rural areas increased from around 0.5 percent a year between 1990 and 1996 to 2.9 percent between 1997 and 1998. On the contrary, the growth of the labor force in the urban areas decreased from 7.3 percent a year between 1990 and 1996 to 4.7 percent during the crisis in the 1997-98 period. The crisis has also increased the growth of female labor force and employment. From 1990 to 1996, the size of the female labor force grew at around 2.3 percent annually, and during the crisis in 1997-98 it grew by 4.8 percent. The growth of female employment also increased from 1.8 annually before the crisis to 4.2 percent during 1997-98. The size of the male labor force, however, has been

Table 3

## LABOR FORCE IN INDONESIA, 1990-1999

	Number (million)			Percent			Growth			
	1997	1998	1999	1997	1998	1999	1990 - 1996	1997- 1998	1998- 1999	1997- 1999
<b>General</b>										
<b>Working Age</b>										
<b>Population</b>	135.07	138.56	141.09	100.0	100.0	100.0	2.5	2.6	1.8	4.5
Urban	53.35	56.09	58.98	39.5	40.5	41.8	6.0	5.1	5.2	10.5
Rural	81.72	82.47	82.11	60.5	59.5	58.2	0.6	0.9	-0.4	0.5
<b>Labor Force</b>	89.60	92.74	94.84	100.0	100.0	100.0	2.6	3.5	2.3	5.8
Urban	31.92	33.41	36.10	35.6	36.0	38.1	7.4	4.7	8.1	13.1
Rural	57.68	59.33	58.74	64.4	64.0	61.9	0.6	2.9	-1.0	1.8
Male	55.27	56.76	58.43	61.7	61.2	61.6	2.7	2.7	2.9	5.7
Female	34.34	35.97	36.41	38.3	38.8	38.4	2.5	4.8	1.2	6.0
<b>Population Employed</b>										
Total	85.41	87.67	88.81	100.0	100.0	100.0	2.2	2.7	1.3	4.0
Urban	29.40	30.30	32.32	34.4	34.6	36.4	-	3.1	6.7	9.9
Rural	56.10	57.40	56.49	65.7	65.5	63.6	-	2.3	-1.6	0.7
Male	53.01	53.90	54.90	62.1	61.5	61.8	2.4	1.7	1.9	3.6
Female	32.40	33.77	33.91	37.9	38.5	38.2	2.0	4.2	0.4	4.7
<b>People looking for work</b>	4.20	5.06	6.03	4.7	5.5	6.4	13.4	20.6	19.1	43.6
<b>Not in the Labour Force</b>	45.47	45.82	46.24	33.7	33.1	32.8	2.2	0.8	0.9	1.7

Source: BPS, *Sakernas*, various years.

relatively constant before and after the crisis. The fact that the crisis has increased the labor force participation rates for women indicates an increase in employment opportunities for women. It could also mean that the crisis has forced women to participate and work in the labor market to provide an additional income for the household.

The picture from the most recent data in 1999 suggests a different pattern. Labor force participation in general increased at a lower rate compared with that in 1998 during the worst time of the crisis. There were also some changing patterns in rural-urban and female-male classifications. After declining from 1997 to 1998, labor

force participation in urban areas increased significantly from 1998 to 1999. Classified by gender, the sharp increase in female labor force participation during 1997-98 in fact did not continue and in 1999, male labor force participation rate increased higher than the female.

The crisis had also led to an increase, albeit small, in the number of unemployment in 1998. The data from *Sakernas* shows that the total unemployment rate increased from 4.7 percent in 1997 to 5.5 in 1998. The preliminary result of the *Susenas* data shows a similar result -- unemployment increased from 5.0 in 1997 to 6.8 in 1998. The government, through the Minister of Manpower, mentioned several times

Table 4

## UNEMPLOYMENT RATE IN INDONESIA, 1997-1999

	1997		1998		1999		Growth		
	No. (Mill.)	Rate (%)	No. (Mill.)	Rate (%)	No. (Mill.)	Rate (%)	1997- 1998	1998- 1999	1997- 1999
<b>Total</b>	4.10	4.7	5.06	5.5	6.03	6.4	16.5	19.1	35.7
Urban	2.57	8.0	3.10	9.3	3.77	10.5	15.5	21.6	30.0
Rural	1.63	2.8	1.96	3.3	2.26	3.8	16.9	15.1	35.9
Male	2.26	4.1	2.86	5.0	3.52	6.0	23.3	23.1	47.5
Female	1.94	5.6	2.20	6.1	2.51	6.9	8.4	13.9	22.0
<b>By Education</b>									
No schooling	0.03	0.3	0.03	0.4	0.03	0.4	19.0	26.1	27.7
Elementary Education	0.95	1.9	0.22	2.2	0.25	2.8	-76.4	15.9	43.8
Secondary Education	2.84	10.0	0.91	11.5	1.15	12.4	-67.9	15.0	24.2
Tertiary Education	0.65	10.4	0.87	11.0	1.04	12.7	33.6	5.8	22.2

Source: BPS, *Sakernas* 1997-1999

that unemployment was expected to reach around 15 to 20 million people in 1998, but this statement was clearly an overestimate.<sup>2</sup> The more reliable official estimates of unemployment in 1998 by the Ministry of Manpower and *Bappenas* (the National Planning Agency) put it at around 14.8 percent (13.7 million) and 13.6 percent (12.4 million) respectively. The special task force of the ILO<sup>3</sup> estimated that open unemployment rate in 1998 would be around 10 percent, or 9.3 million people.

<sup>2</sup>From February - May 1998, Minister of Manpower, Representatives of Labor Unions, and others observers announced large and overestimated unemployment figures, ranging from 13 to 20 million people unemployed. They might use these large numbers to show the seriousness of employment problems in Indonesia. See for example, *Jakarta Post*, 14 April 1998, *Suara Karya*, 14 May 1998.

<sup>3</sup>See ILO, "Employment Challenges of the Indonesian Economic Crisis". *ILO Report*. 1998.

The results from the *Sakernas* show that overall, open unemployment rate increased by 16.5 percent, from around 4.7 percent in 1997 to 5.5 percent in 1998. In terms of unemployment, the increase was higher for male compared with female. The unemployment rate among males increased from 4.1 in 1997 to 5.0 percent (23.3 percent increase) in 1998 while that of females increased from 5.6 in 1997 to 6.1 (8.4 percent increase) in 1998. Combined with the results from the 1999 data, the increase in unemployment during the crisis was clearly larger among males. Male unemployment rate increased from 4.1 to 6.0 percent (47.5 percent increase), while female unemployment rate increased from 6.1 to 6.9 percent (22.0 percent increase) between 1997 and 1998. This result was previously predicted because the economic sectors that had suffered the most and are the slowest to recover from the crisis, particularly the construction sector, have a larger number of male workers. On the contrary,

labor-intensive and export-oriented industries that have survived the crisis due to their export orientation employ more female workers.

The recent data from the *Sakernas* in 1999 shows that unemployment rate continued to increase from 5.4 percent in 1998 to 6.4 percent in 1999 -- a greater increase compared with that in 1997-1998. Open unemployment rate at 6.4 percent is generally small in an international comparative perspective, but the fact that unemployment increased from 4.7 percent in 1997 to 6.4 percent in 1999 shows that the crisis had caused a significant increase in unemployment. It is important to note, however, that this adjustment in the labor market did not take place immediately during the worst time of the crisis, but took place two years later. This confirms the notion that the adjustment in the first year of the crisis was the adjustment in real wages due to inflation with unemployment rate increased slightly. When the inflation rate decreased in 1999, creating sharp increases in real wages, employment finally had to adjust, and as a result, unemployment rate was higher in 1999.

It is also important to realize the reason for the relatively low unemployment rate in an international comparative perspective. In Indonesia's statistics, open unemployment is defined as "working for less than one hour a week and at the same time looking for a job." When the real income is shrinking as a result of stagflation, in a country where there is no unemployment insurance and social security, people cannot afford to be unemployed. So, when some people work for more than an hour a week -- for instance, a two-hour work either in the formal or informal sectors a week before the survey was conducted -- these people are not counted as unemployed. Because of this, unemployment has been generally small

in Indonesia. In 1996, open unemployment was almost 5 percent and was dominated by unemployed young people. The unemployment rate was the highest among those between 15-24 years old (around 13 percent) when secondary school graduates enter the job market. Open unemployment among those 30 years or older is generally not significant in Indonesia.

Another characteristic of unemployment in Indonesia in the 1990s was urban unemployment. While urban areas accounted for only 30 percent of the total employment, this accounted for almost 60 percent of unemployment.<sup>4</sup> Manning and Jayasuriya (1996) indicated that urban unemployment among the youth in the 1990s had been increasing. However, Agrawal (1996) argues that unemployment in Indonesia is not a serious problem.<sup>5</sup> *First*, those unemployed are mainly young people who enter the job market for the first time. *Second*, the duration of unemployment is usually short -- an indication of a relatively flexible labor market in Indonesia.

According to the *Susenas* data in 1998, the majority of the unemployed labor force consists of those who had just recently entered the job market. Around 79 percent of female and 68 percent of male unemployed consisted of those who had never worked before. There was no significant difference between rural and urban areas on this issue, and these data confirm the reality that the young dominated the composition of unemployment in Indonesia. In terms of education, the preliminary *Susenas* data suggest that the in-

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<sup>4</sup>See Chris Manning and Sisira Jayasuriya, "Survey of Recent Development," *Bulletin of Indonesian Economic Studies*, August 1996, and also Chris Manning and P.N. Junankar, "Choosy Youth or Unwanted Youth? A Survey of Unemployment." *Bulletin of Indonesian Economic Studies* 34, no. 1 (April 1998).

crease in unemployment is among those with higher education. The percentage of unemployed people with high school education or above increased from 1997 to 1998, while those with education less than high school in fact decreased at the same period. These results support the notion that only those who have higher incomes could survive and afford to be unemployed and their unemployment spell could be longer.

### Tracing the Patterns of Labor Displacement

While the additional increase in unemployment was small, it does not mean that there were no serious layoffs or employment reduction in the labor market. The small increases of unemployment in 1998 at the aggregate or average level clearly show that those who lost their jobs in one sector found another job or was absorbed by other sectors' employment. Economic adjustments caused by the crisis had led to both booming and shrinking sectors and industries. Many displaced workers from the shrinking sectors were forced to work in other industries or in the informal sectors. Because the labor market in Indonesia was flexible, real wage would easily adjust to the changing supply and demand conditions. These smaller-than-expected unemployment figures once again show the flexibility of the Indonesian labor market and the large reduction in real wages that it had to bear as a result of the crisis. In other words, the price of this smaller-than-expected unemployment rate in 1998 was a sharp correction in real wages.

This adjustment of the Indonesian labor market can be scrutinized in more detail with the help of several of the added questions in the 1998 *Sakernas* data. Designed to measure the impact of the crisis, the BPS

included additional questions looking at labor displacements that happened after July 1997 -- i.e., the beginning of the crisis. These questions include reasons for displacement, the sectoral classification of the previous job, and the status of the previous job.

The result confirms the notion that the crisis had immediately induced the informalization of the labor force, and also a move from the more modern sectors of manufacturing and services to the more traditional sectors such as agriculture. The result also provides an interesting insight on the gender-differentiated impact of the economic crisis.

Overall, about 4.3 million workers -- men and women -- were displaced after July 1997. This accounted for roughly 4.9 percent of the 87.5 million workers working in 1997.<sup>6</sup> Of 4.3 million, one million dropped out of the labor force, while another million was struggling to find work. About 2.2 million or 2.5 percent of the total workers in 1997 managed to find work, leaving 2.1 million (2.4 percent) as the real employment reduction occurring between 1997 and 1998.

Nevertheless, it is not clear that the job displacement that occurred after July 1997 was a *consequence* of the crisis or it was simply a natural phenomenon of turnovers. Since previous years do not include questions on labor displacement, it is difficult to judge the extent of the crisis' impact on these displacements. Hence, the question on reasons for displacement might provide an estimate of the extent of the impacts of the crisis on employment reduction. The survey put five answer cat-

<sup>5</sup>See Agrawal, *the Benefit of Growth*.

<sup>6</sup>Note, however, that the data on the displacement is part of the 1998 *Sakernas* Data, while the data on the number of workers in 1997 is part of the 1997 *Sakernas* Data. Even though the two are not perfectly comparable, they are deemed to be precise enough for the purpose of this exercise.



Table 5

REASONS FOR JOB DISPLACEMENT  
1987/98

Gender	Involuntary	Voluntary	Total
Male	1,562,874	1,245,388	2,808,262
Female	575,379	895,480	1,470,859
<b>Total</b>	<b>2,138,253</b>	<b>2,140,868</b>	<b>4,279,121</b>

Source: BPS, 1998

egories for the reasons of job displacement: (1) insufficient wages; (2) incompatible working environment; (3) dismissals; (4) going out of business; and, (5) others.

Reason (3) and (4) can be grouped together under "involuntary job displacement" while the other three reasons can be grouped as "voluntary job displacement". Hence, about half of the 4.3 million were involuntarily displaced, and the other half quit their jobs voluntarily. More men were forced out of their jobs than women.

Meanwhile, as mentioned before, the crisis has induced a process of informalization. Table 6 illustrates how the crisis shifted work from the formal sector to the informal sector. Of the 4.3 million displaced workers between July 1997 and August 1998, 3.2 million came from the formal sector while around 1.1 million from the informal sector. Meanwhile, among those displaced from the formal sector, only 1.6

million managed to find work and a substantial share of them (59 percent) are working in the informal sector. Among the 1.1 million displaced from the informal sector, about 0.6 million managed to find work. Most of them returned to the informal sector. Overall, the informal sector absorbed about 63.0 percent (1.4 million) of those who found work after job displacement, while the formal sector only absorbed about 37.0 percent (0.8 million).

The patterns of displacement and adjustment in modern sectors, such as manufacturing and services, and instead moved away from those sectors towards the traditional sector of agriculture. In absolute terms, the sectors that displaced the most workers were, in order of magnitude: manufacturing, agriculture (probably due to drought and El Niño), services, trade, and construction. Even though agriculture displaced a relatively large number of workers, it simultaneously absorbed a substantial number of workers that had recently been displaced (see Table 7).

A high proportion of those who lost their jobs found work in agriculture (39.3 percent). A smaller proportion found work in trade (19.2 percent) and manufacturing (12.1 percent). This movement from the modern sectors to the agricultural -- in which agriculture absorbed the largest number of displaced workers coming from

Table 6

## LABOR DISPLACEMENT BY FORMAL-INFORMAL, 1997/98

August 98 Survey Before July 97	Employment			Looking for Work	Not in the Labor Force
	Informal	Formal	Total		
Informal	441,469	160,705	602,174	106,341	346,842
Formal	935,384	649,560	1,584,944	979,350	659,470
<b>Total</b>	<b>1,376,853</b>	<b>810,265</b>	<b>2,187,118</b>	<b>1,085,691</b>	<b>1,006,312</b>

Source: BPS, 1998

Table 7

## DISPLACEMENT OF WORKERS BY SECTOR, 1997/98

Sector	Displaced from Sector		Absorbed by Sector in 1998	
	Number	As % of 1997 Emp.	Number	As % of Total Displaced
1. Agriculture	782,603	2.2	859,142	20.1
2. Mining	63,833	7.1	45,566	1.1
3. Manufacturing	1,094,249	9.8	264,995	6.2
4. Utilities	24,144	10.4	2,221	0.1
5. Construction	562,736	13.4	208,092	4.9
6. Trade	676,113	3.9	420,511	9.8
7. Transport & Communication etc.	235,071	5.7	165,398	3.9
8. Financial Services	61,757	9.4	9,348	0.2
9. Services	778,615	6.2	211,845	5.0
Total	4,279,121	4.9	2,187,118	51.1

Source: BPS, *Sakernas*, 1998.

every major industry in the economy, except for trade (see Table 7) -- signaled a temporary trend of going back to agriculture and, consequently, a move back to the rural areas between 1997 and 1998.

In terms of gender, the *Sakernas* data show that the crisis reduced employment opportunities in the formal sector for male workers relative to female. Total employment in the formal sector decreased from 30.3 million in 1997 to 28.8 million in 1998. Male accounted for 1.4 million or 98 percent of this reduction of employment in the formal sector. As elaborated before, this is expected because the economic sector that suffered the most and will be the slowest to recover is the male-workers dominated construction sector, while the sectors that survived well were the female-dominated labor-intensive export-oriented sectors, such as textile, garment and footwear industries.

Nevertheless, a more detailed observation on the displacement data offers an

interesting insight on the process of labor market adjustments. The fact that female contributes only 2 percent to the total employment reduction does not imply that they did not experience labor displacements. In fact, the number of females being displaced from their work between 1997 and 1998 was comparable to that of males. Females account for about a third of those displaced in that period (see Table 8). Compared as a percentage of total employment in 1997 by gender, the difference between male and female was less than a percentage point (5.2 and 4.4 percent respectively). This implies that the effects of these displacements were quite substantial for female as much as it was for male. The majority of males who were displaced came from the manufacturing (22.6 percent of total displaced), construction sector (18.9 percent) and services (17.3 percent). A majority of females were displaced from the manufacturing (31.2 percent) and trade (22.0 percent).

Table 8

DISPLACEMENT BY GENDER, 1997/98

Gender	Displaced			1997 Total Emp.
	Number	As % of of Total Disp.	As % of 1997 Total Emp.	
Male	2,808,262	65,6	5,3	53,005,502
Female	1,470,859	34,4	4,5	32,400,027
<b>TOTAL</b>	<b>4,279,121</b>	<b>100,0</b>	<b>5,0</b>	<b>85,405,529</b>

If women accounted for a third of those displaced, yet contributed a relatively miniscule share of employment reduction, does it mean that the labor market absorbed the majority of these female workers? Interestingly enough, that was not really the case. As a matter of fact, a majority of women (about 69 percent) who were displaced in 1997 were not working at the time of the August 1998 labor survey. In fact, a significant number of them was "discouraged" and left the labor force as a result of the crisis -- the number is much higher for women compared to men in both absolute and relative terms. Most of those that dropped out of the labor

force returned to their domestic role in housekeeping.

Again, even though the number of displaced female workers who left the labor force was much higher than male workers, overall, there was actually a decrease of the number of women **not** in the labor force, while there was an increase of the number of men **not** in the labor force. The number of women **not** in the labor force decreased from 34.44 million to 34.35 million -- a decrease of 0.3 percent -- while the number of male increased from 11.03 million to 11.47 million -- an increase of 4 percent.

These seemingly contradictory numbers show that the workers being absorbed into the labor force were, often times, not the same workers leaving the labor force. Even though the exit of women from the labor market was balanced by a significant number of women entering the labor force, the crisis had caused many of previously working women to get out of the labor force and return to their domestic role. This implied that the crisis caused a significant, albeit unknown, negative effects towards previously working women.

Table 9

LABOR DISPLACEMENT FOR MALE AND FEMALE

Male

Status on Jul 97 \ Status on Aug 98	Labor Force			Not in the Labor Force				Total Displaced after July 97
	Working	Looking for work	Total	Going to School	House- keeping	Others	Total	
Informal	459,809	76,706	536,515	2,696	11,690	94,966	109,352	645,867
Formal	1,264,326	643,672	1,907,998	4,676	29,884	219,837	254,397	2,162,395
<b>TOTAL</b>	<b>1,724,135</b>	<b>720,378</b>	<b>2,444,513</b>	<b>7,372</b>	<b>41,574</b>	<b>314,803</b>	<b>363,749</b>	<b>2,808,262</b>

Female

Status on Jul 97 \ Status on Aug 98	Labor Force			Not in the Labor Force				Total Displaced after July 97
	Working	Looking for work	Total	Going to School	House- keeping	Others	Total	
Informal	142,365	29,635	172,000	3,418	205,939	28,133	237,490	409,490
Formal	320,618	335,678	656,296	6,891	329,587	68,595	405,073	1,061,369
<b>TOTAL</b>	<b>462,983</b>	<b>365,313</b>	<b>828,296</b>	<b>10,309</b>	<b>535,526</b>	<b>96,728</b>	<b>642,563</b>	<b>1,470,859</b>

## Underemployment

While unemployment rate remained small during the crisis, underemployment in Indonesia has been generally severe, and the crisis has increased the number of underemployment. But the increase in underemployment was, once again, small. Underemployment is generally defined as workers who work for less than 35 hours a week, and under this definition, 35 percent of workers in Indonesia were underemployed in 1996 before the crisis hit. Based on the results from the *Sakernas* data in 1998, the number of underemployment increased from 21 percent to 24 percent in urban areas and from 44 percent to 47 percent in rural areas. In 1999, the number of underemployment decreased slightly to 23.5 percent in urban areas and 45 percent in rural areas.

Compared with the number of underemployment before the crisis, the larger increase in the urban areas (20 percent) compared with that in the rural areas (10 percent) reflects the fact that the urban areas was hit harder during the crisis. But this was also due to much larger formal employment in the urban areas, and since the crisis mainly hit formal employment, there were more people in urban areas who lost their jobs and were forced to work less than 35 hours a week in the informal sectors. The increasing number of underemployment during the crisis appeared for both male and female workers.

It is important to note that similar to other countries, the Indonesian labor market is characterized by high underemployment rate even during the economic boom period in early 1990s. During the last decade of the economic boom period, the relation between economic growth and underemployment was not really clear. While high economic growth in 1990-1996 significantly reduced unemployment, especially in the formal sector, underemployment rate

was always high. Therefore, the increase in underemployment from around 35 percent before the crisis to around 39 percent overall during the crisis cannot be seen as a large adjustment.

Because of the seasonal nature of agricultural work, underemployment in rural areas is generally much larger than in urban areas. Around 45 percent of worker in rural areas worked less than 35 hours a week, compared with around 21 percent in urban areas in 1996. After the crisis, the reduction in employment opportunity might reduce the number of working hours and increase underemployment. However, on the contrary, sharp reduction in real wages and income might force people to work more hours, and therefore could even reduce the number of underemployment.

## The Changing Structure of the Labor Market

In looking at the structure of the labor market, three kinds of observation are made in this section. First, the movement between formal and informal sectors. Then, the change in sectoral employment by industry. And finally, the changing pattern of employment in the urban and rural areas.

### *Formal-Informal*

The crisis reversed the formalization of the labor market before the crisis into the process of informalization during the crisis period from 1997 to 1998. The formalization of the labor market -- characterized by the increasing size of the formal sector in the economy -- was rapid during the boom years of the early 1990s. The share of informal sector employment decreased from 71.4 percent in 1990 to 65 percent in 1996, while that of the formal sector grew from 28.6 percent in 1990 to 36.8 percent in 1996. This formalization of the labor market was

This formalization of the labor market was more rapid in the urban areas and, naturally, was accompanied with a strong urbanization process. During the crisis, the share of the informal sector in general increased from 63.3 percent to 65.4 percent. This 6.9 percent annual increase during the crisis was much larger than the annual growth of the informal sector at around half a percent for the last decade. At the same time, the growth of formal sector employment declined by minus 4.4 percent. The fact that total employment grew by 2.7 percent from 1997-1998, higher than the annual rate at around 2.0 percent before the crisis, was in fact due to the sharp increase in the informal employment.

The informalization was stronger in rural areas, especially during the crisis. Prior to the crisis, during 1990-1996, people were leaving the informal sectors at the rate of 0.6 percent in the rural areas. The trend shifted sharply during 1997-1998, where there was a substantial growth of 5.8 percent going into the informal sectors. A similar trend happened in the urban areas -- not as salient, but nevertheless, quite significant. During 1990-1996, informal sector employment grew by 6.3 percent annually. Following the crisis, the growth increased to 10.3 percent. Meanwhile, formal sector employment in both rural and urban areas was contracted by 7.2 percent and 2.0 percent respectively.

Table 10

## EMPLOYMENT STATUS OF INDONESIAN WORKERS, 1990-1999

	Number (million)			Percent			Growth (% p.a.)			
	1997	1998	1999	1997	1998	1999	1990-1996	1997-1998	1998-1999	1997-1999
<b>Total</b>	<b>85.41</b>	<b>87.67</b>	<b>88.81</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>2.2</b>	<b>2.7</b>	<b>1.3</b>	<b>3.8</b>
<b>Formal</b>	31.74	30.33	31.93	37.2	34.6	36.0	5.6	-4.4	5.3	0.6
Employer with Permanent Employee	1.47	1.53	2.55	1.7	1.7	2.9	11.7	4.1	67.2	42.5
Employee	30.28	28.81	29.38	35.5	32.9	33.1	5.3	-4.9	2.0	-3.0
<b>Informal</b>	53.66	57.34	56.88	62.8	65.4	64.0	0.6	6.9	-0.8	5.7
Self-employed with No Employee	19.86	20.52	21.71	23.3	23.4	24.4	3.5	3.3	5.8	8.5
Self-employed with Temp/Family Worker	17.98	19.69	18.91	21.1	22.5	21.3	2.8	9.5	-3.9	4.9
Family Worker	15.81	17.13	16.26	18.5	19.5	18.3	-4.6	8.3	-5.1	2.7
<b>Female</b>	<b>32.40</b>	<b>33.77</b>	<b>33.91</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>1.9</b>	<b>4.2</b>	<b>0.4</b>	<b>4.4</b>
Formal	9.66	9.62	10.18	29.8	28.5	30.0	5.2	-0.4	5.8	5.1
Informal	22.74	24.16	23.73	70.2	71.5	70.0	0.8	6.2	-1.8	4.2
<b>Male</b>	<b>53.01</b>	<b>53.90</b>	<b>54.90</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>2.4</b>	<b>1.7</b>	<b>1.9</b>	<b>3.5</b>
Formal	22.09	20.71	21.76	41.7	38.4	39.6	5.7	-6.2	5.0	-1.5
Informal	30.92	33.18	33.15	58.3	61.6	60.4	0.5	7.3	-0.1	6.7
<b>Rural</b>	<b>56.05</b>	<b>57.37</b>	<b>56.49</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>0.3</b>	<b>2.3</b>	<b>-1.5</b>	<b>0.8</b>
Formal	14.95	13.88	14.40	26.7	24.2	25.5	3.7	-7.2	3.8	-3.8
Informal	41.10	43.49	42.09	73.3	75.8	74.5	-0.6	5.8	-3.2	2.3
<b>Urban</b>	<b>29.35</b>	<b>30.30</b>	<b>32.32</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>6.9</b>	<b>3.2</b>	<b>6.7</b>	<b>9.2</b>
Formal	16.80	16.45	17.53	57.2	54.3	54.2	7.4	-2.0	6.6	4.2
Informal	12.56	13.85	14.79	42.8	45.7	45.8	6.3	10.3	6.8	15.1

Source: BPS, *Sakernas*, various years.

In terms of employment status within the informal sector, the crisis had increased the share of family workers. The increasing number of employment in the informal sectors has been predicted, but the fact that the number of family workers increased significantly during the crisis suggests that people look for jobs within their family unit as part of the coping mechanism to survive the crisis. The number of women working as family workers increased more significantly than that of the men during the crisis. From 1986 to 1996 before the crisis, the number of female family workers decreased by 1.8 percent annually. But from 1997 to 1998, the number of female family workers increased by 6.5 percent.

A sign of reversal of this pattern, however, has been indicated in the most recent data in 1999. With early signs of economic recovery, labor moved back to the formal sector. After declining by more than 4 percent from 1997 to 1998, the number of workers in the formal sector increased by 5.3 percent in 1998-1999. But in

two years from 1997 to 1999, informal sector employment increased by 5.7 percent while that of formal sector increased by 0.6 percent. This means that additional employment during that period was created in the informal sector. The recent movement back to the formal sector, however, also suggests that labor absorption capacity in the informal sectors was limited. In fact, the recent move to the formal sectors took place both for the male and female workers and also for urban and rural categories.

### *Sectoral Impact*

There was a rapid movement of labor out of the agricultural sector for the last seven years from 1990 to 1996 before the crisis hit. Agricultural employment declined rapidly from 56 percent of total employment in 1990 to around 44 percent in 1996. The number of employment in the manufacturing sector increased from around 8 percent in 1990 to almost 13 percent in 1996. The construction sector had absorbed a

Table 11

THE CHANGING PATTERN OF SECTORAL EMPLOYMENT, 1990-1999

	Number (million)			Percent			Growth (% p.a.)			
	1997	1998	1999	1997	1998	1999	1990-1996	1997-1998	1998-1999	1997-1999
<b>Total</b>	85.41	87.67	88.81	100.0	100.0	100.0	2.0	2.7	1.3	3.8
1. Agriculture	34.79	39.41	38.38	40.7	45.0	43.2	-1.9	13.3	-2.6	9.3
2. Mining	0.88	0.67	0.73	1.0	0.8	0.8	6.4	-23.0	7.7	-20.6
3. Manufacturing	11.01	9.93	11.52	12.9	11.3	13.0	5.6	-9.8	15.9	4.4
4. Utilities	0.23	0.15	0.19	0.3	0.2	0.2	3.2	-37.0	28.1	-23.9
5. Construction	4.18	3.52	3.42	4.9	4.0	3.8	10.2	-15.9	-3.0	-22.5
6. Trade	16.95	16.81	17.53	19.9	19.2	19.7	6.3	-0.8	4.2	3.3
7. Transport & Comm. Etc.	4.13	4.15	4.20	4.8	4.7	4.7	8.9	0.7	1.3	1.9
8. Financial Services	0.66	0.62	0.63	0.8	0.7	0.7	6.1	-6.0	2.7	-3.6
9. Services	12.57	12.39	12.22	14.7	14.1	13.8	4.3	-1.4	-1.4	-2.9

Source: BPS, *Sakernas*, various years.

large proportion of unskilled labor moving out from the agricultural sector as employment in the construction sector grew by almost 11 percent a year from 1990 to 1996. The share of trade, restaurant, and hotel sectors increased sharply from almost 15 percent in 1990 to almost 19 percent in 1996, and became the second largest sector (after agriculture) in absorbing labor.

The economic crisis has seriously affected the non-tradable sectors especially construction, the inefficient financial sector, and the highly import-dependent manufacturing sectors. Labor from these sectors was laid off and moved to other sectors -- especially the surviving agricultural sector. Through the terms of trade effects, sharp currency depreciation led to the collapse of highly import dependent sectors. In contrast, some export oriented manufacturing, such as textile, shoes, and garment, had largely benefited from the crisis. Based on the *Sakernas* data, it can be seen that during the crisis in 1998, employment in the utility (electricity, gas and water) sector decreased by 37 percent, followed by mining (23 percent), construction (15.9 percent), and manufacturing (10 percent). These reductions were drastic changes from, for example, 10.7 percent annual growth of employment in the construction sector and 6.6 percent annual growth in the manufacturing sector from 1990 to 1996. The collapse of the financial sector during the crisis also created an employment reduction of minus 5.8 percent in 1997-1998. Again, during the economic slowdown, agriculture turned out to be the savior of the economy in labor absorption with an increase of 13.3 percent employment during the crisis period. After decreasing from 56 percent in 1990 to 41 percent in 1997, the share of employment in the agricultural sector increased to 45 percent in 1998.

The movement to agriculture during the crisis, however, did not last very long and suggested the limit of agriculture's labor absorption capacity. The data in 1999 show that labor started to move out from the agricultural sector and to go back to other modern sectors, especially manufacturing and public utilities. After growing by almost 10 percent from 1997 to 1998 during the worst time of the crisis, employment in agriculture declined by 2.6 percent from 1998 to 1999. Within the same period employment in other sectors started to increase by 7.7 percent in mining, 15.9 percent in manufacturing, 28 percent in electricity, gas, and water. However, in the construction sector it remained to decrease by about 3 percent from 1998 to 1999:

### *Urban-Rural*

The shift of labor from the formal and the modern sectors to the informal and the traditional sectors, such as agriculture, forestry, and fisheries in 1998, was accompanied by the movement of employment opportunities to the rural areas. The crisis reduced the growth of urban employment from more than 6 percent per annum during the booming years in 1990-1996 to about 3 percent from 1997-1998. But the annual growth of rural employment increased from almost 0 percent before the crisis to more than 2 percent after the crisis.

However, the data in 1999 again show a reversal of this urban-rural pattern. From 1998 to 1999, employment in urban areas grew by 6.7 percent while that in rural areas declined by 1.6 percent. In fact this reverse movement was so strong such the overall change in the two-year period after the crisis indicated a more than 9 percent increase in urban areas compared with less than 1 percent in rural areas. In other words, the movement to rural areas

during the crisis was a temporary phenomenon.

### Earning and Productivity

Accurate data on income are generally hard to obtain in developing countries including Indonesia. But *Sakernas* reports the total monthly earnings or wages in the formal sector, which at least presents the picture of monthly wages in the formal sector before and after the crisis. Nominal and real wages generally moved along the same pattern for the last ten years before the crisis, with inflation at around 8 to 10 percent. But it is clear that with more than 77 percent inflation in 1998, the economic crisis had sharply reduced real wages from 1997 to 1998.

The 1998 *Sakernas* data show that nominal monthly wages, measured as the monthly earning<sup>7</sup> in the formal sector, increased by 16 percent from 1996 to 1997 period, and by 17 percent from 1997 to 1998. Having been corrected using GDP deflators, real wages still increased by around 4 percent in 1997, but then sharply decreased by 34.2 percent from 1997 to 1998. The new level of real wage in 1998 was comparable to that in 1989/90, and it means that the increase in real wages during the last seven years before the crisis disappeared within the first year of the crisis. Compared with the decline in personal consumption in the GDP of around 3 percent, this again suggests that people maintained their consumption level by consuming their savings. However, the newest earning data from *Sakernas* data 1999 show that low inflation and some increases in nominal wages clearly led to surging real wages in 1999. After declining by more than 30 percent in 1997-1998, real wages started to climb back up by 10.5 per-

<sup>7</sup>Monthly earning consists of monthly wage plus other benefits.

Table 12

#### GROWTH OF REAL WAGES, 1997-1999

	1997-98	1998-99	1997-99
<b>All Sector</b>	-34.2	10.5	-27.2
<b>By Sector</b>			
1. Agriculture	-17.9	-6.8	-23.5
2. Mining	-31.1	23.9	-14.7
3. Manufacturing	-34.9	6.0	-31.0
4. Utilities	-21.4	16.8	-8.2
5. Construction	-42.8	2.8	-41.2
6. Trade	-37.2	10.5	-30.8
7. Transport & Comm. Etc.	-14.3	-8.6	-21.7
8. Financial Services	-21.7	10.7	-13.4
9. Services	-23.6	12.7	-13.9
<b>Urban</b>	-36.3	9.3	-30.4
Male	-36.3	7.6	-31.4
Female	-35.6	13.6	-26.8
<b>Rural</b>	-31.5	11.2	-23.8
Male	-31.5	12.5	-22.9
Female	-29.6	7.4	-24.4
<b>By Education</b>			
No Schooling	-29.2	12.1	-20.6
Elementary Education	-34.0	5.8	-30.2
Secondary Education	-36.7	13.2	-28.3
Tertiary Education	-34.5	5.3	-31.0

Source: BPS, *Sakernas* Data, various years

Note: Sectoral real wages are deflated by sectoral GDP Price Deflator

cent from 1998 to 1999, even though within two years from 1997 to 1999, real wages still declined by 27.2 percent overall.

Almost all sectors, except transport and agriculture, experienced real wage declines by above 20 percent between 1997 and 1998. In that period, real wages in the agricultural sector declined by 17.9 percent while that of transport by 14.3 percent. Not unlike the decline in sectoral employment, there were large variations between sectors in the size of the decline in real



wages, with construction experiencing the largest shock in real wages early on in the crisis, with a decline of almost 43 percent. Trade, manufacturing and mining also experienced a substantial drop in real wages by 37.2 percent, 34.9 percent and 31.1 percent respectively. By comparing real wages in 1997 and 1999, it is clear that the largest decline took place in construction, manufacturing, and trade with a decline of more than 30 percent. Real wages in services sector in general, including trade, transport, and other services, declined by around 13 to 30 percent between the two years. Real wages in the agricultural and transport sectors declined less sharply in 1998, but declined further in 1999, when other sectors were experiencing increases. This indicates that there were some labor surpluses in those two sectors in 1999.

There was no real indication on the difference in the decline of real wages between the urban and rural areas, even though the earning data in the formal sector from the *Sakernas* tend to suggest that this crisis was a crisis for urban workers. A brief estimate using similar price deflators shows that the decline in real wages in the urban areas from 1997 to 1998 was around 33 percent compared with around 28 percent in the rural areas. The data also show that the decline in real wages for male workers in urban areas is larger than that of the females. But other data suggest that the decline of real wages in rural areas, represented by the real wages in agriculture, declined by around 40 percent from 1997 to 1998. A similar trend took place in outer islands, such as Sulawesi, Nusa Tenggara and Sumatera (Cameron, 1999).

Classified by the level of worker's education, there is little indication that those with higher education suffered larger real wage decline compared with those with less education in 1998. But the 1999 data tend to show that those with less edu-

cation (primary school or less) experienced smaller real wage increases. A small proportion of workers with university degrees also experienced a small real wage increase in 1999.

Labor productivity, measured as the real GDP divided by the number of employment, also declined sharply in 1998 due to the economic contraction. During the early period of the crisis in 1997, labor productivity still increased by 3.1 percent, but then sharply declined by 13.8 percent in 1998. At the same time, real wages increased by around 3.8 percent in 1997, and then declined sharply by 31.8 percent in 1998. It is interesting to note that while the real wages during the crisis was comparable to that in 1989/90, the level of labor productivity was similar to that in 1993/94. In other words, the real wages declined faster than the labor productivity during the crisis, which opens a possibility of an undershooting wage.

The case of undershooting was confirmed with the latest data from the *Sakernas*. In 1998-1999, real wages increased by 19.5 percent while productivity even still declined by 1.1 percent. From 1997 to 1999 overall, real wages declined by 27.2 percent while labor productivity declined by 14.7 percent. When the decline in labor productivity was still below that of the real wage, there seems to be some room for real wages to go up without affecting the competitiveness of the economy. But the fact that real wage growth was higher than labor productivity growth in 1999 provides an indicator that surplus of labor in the labor market was only temporary. The impact of the higher real wage can also be seen in the increase of the unemployment rate in 1999.

To some extent, the changes in minimum wage during the crisis contributed to the recent trend in wages. During the

Figure 1

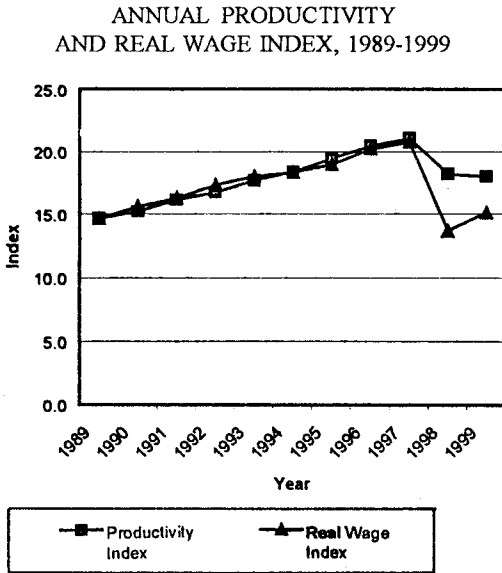


Figure 2

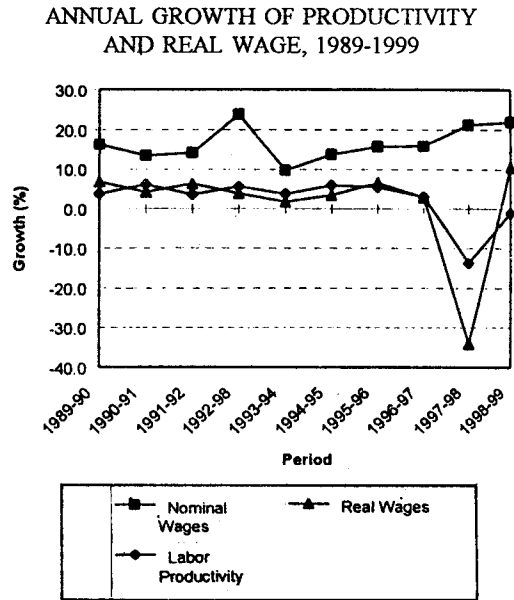


Table 13

**ANNUAL GROWTH OF WAGES V. PRODUCTIVITY, 1989-1999**

Year	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	97-99
<b>All Sectors</b>											
Labor Productivity	3.8	6.1	3.6	5.6	3.8	5.9	5.5	3.1	-13.8	-1.1	-14.7
Nominal Wages	16.2	13.4	14.1	23.8	9.7	13.7	15.7	15.8	21.1	21.8	47.6
Real Wages	6.7	4.3	6.3	3.9	1.7	3.5	6.5	2.9	-34.2	10.5	-27.2
<b>Agriculture</b>											
Labor Productivity	-0.6	4.5	4.3	6.7	6.4	4.6	1.9	7.8	-8.3	3.4	-5.2
Nominal Wages	13.5	23.5	2.7	29.2	17.9	12.3	13.8	10.6	47.2	9.9	61.7
Real Wages	8.6	18.3	-3.5	12.7	5.8	-0.6	4.6	-2.5	-17.9	-6.8	-23.5
<b>Manufacturing</b>											
Labor Productivity	7.3	6.6	5.6	2.8	-8.9	11.2	11.3	1.7	-0.5	-11.8	-12.3
Nominal Wages	29.5	4.5	8.4	34.8	4.1	15.2	17.7	18.0	13.5	20.7	37.0
Real Wages	14.5	-6.1	0.2	13.3	-3.5	3.9	7.6	4.0	-34.9	6.0	-31.0
<b>Services</b>											
Labor Productivity	4.6	1.4	3.6	1.0	-0.9	1.4	1.0	-1.8	-14.6	-3.2	-17.3
Nominal Wages	22.1	12.0	8.9	20.1	8.0	15.5	18.1	-1.1	21.5	27.2	54.5
Real Wages	12.0	2.0	-1.2	-2.4	0.7	7.1	9.2	-13.2	-29.1	11.4	-21.0

Source: Own calculation from BPS, *Sakernas* Data, various years.

worst time of the crisis in 1998, the annual increase in minimum wages was delayed. The annual increase, which is usually due on April 1, was delayed until August 1998 when the minimum wage was increased by 15 percent, much smaller than the inflation at 77 percent. This partly explained the sharp decrease in real wages in 1998. But when overall inflation in 1999 was only 2 percent and the cumulative inflation up to May 2000 was less than 1 percent, the minimum wage was increased twice by 16 percent in April 1999 and then by 25 percent in April 2000.

The loosening labor market weakened the bargaining power of labor in determining wages in 1998. But the bargaining power of labor is expected to increase in the coming years. Political reform and democratization have given more freedom for workers to set up labor movement and trade union for the last two years. As a result the pressure for higher wages, for example in the increase in minimum wages, is expected to be stronger. However, due to the slow process of economic recovery, the increase in productivity and employment could not keep up with the increasing pressure for higher wages. Therefore, it would not be surprising if the incidence of labor disputes, strikes, and other labor problems would increase in the coming years.

There are differences in labor productivity and real wage adjustments across sectors. The data from *Sakernas* suggest that the adjustment in manufacturing has been larger or faster than in other sectors, reflected by larger corrections in real wages, respectively, while that in agriculture declined 6.8 percent. However, the opposite happened in labor productivity: for both manufacturing and services, labor productivity declined by 11.8 percent and 3.2 percent, while productivity for agriculture increased by 3.4 percent.

What presumably happened was that because of the drastic decline in real wages, people moved out from manufacturing faster than from other sectors in 1998. This rapid movement out of the manufacturing sector (compared to other sectors) prevented a drastic decline in labor productivity per worker in that sector. However, in 1999, real wages in the agriculture sector declined and people again left the agricultural sector. This increased labor productivity in agriculture. Those who left agriculture entered the manufacturing sector, causing further decline in the labor productivity of the manufacturing sector.

### International Labor Migration

As an immediate reaction to the Asian crisis in 1997-1998, the number of Indonesian workers working in other Asian countries declined significantly, even though reliable data on the number of overseas workers are generally hard to obtain. With the recovery of Asian economies and the continuing labor surplus in Indonesia's domestic labor market, the number of overseas workers increased significantly from 1998 to 1999. When the crisis hit in 1997/98, many Indonesians who worked in Malaysia/Singapore were sent back home.<sup>8</sup> The outflow of foreign unskilled workers had created a tightening labor market in Malaysia and many Indonesian workers were allowed to go back working in Malaysia. In 1998/99 the number of Indonesian workers in Singapore and Malaysia increased to 171 thousand workers. The number of Indonesian workers in the Middle Eastern countries declined slightly from 1996/97 to 1997/98, but then increased

<sup>8</sup>While many Indonesian workers did get sent home, the recorded decline from more than 320 thousand workers in 1995/96 to 71 thousand workers in 1997/98 (see Table 14) might have been an overstatement.

Table 14

NUMBER OF INDONESIAN OVERSEAS WORKERS PROCESSED  
BY THE MINISTRY OF MANPOWER, 1995-1999

Year	To Middle East		To Malaysia/Singapore		To Other Countries		Total	% Change Over Prev. Year	Sex Ratio (Males/100 Females)
	No	%	No	%	No	%			
1995/96	48.298	40	46.891	39	25.707	21	120.896	-31	48
1996/97	135.336	26	328.991	64	52.942	10	617.269	328	79
1997/98	131.734	56	71.735	30	31.806	14	235.275	-55	20
1998/99	179.521	44	173.995	42	58.153	14	411.609	75	28

Source: Ministry of Manpower.

significantly from 1997/98 to 1998/99 (see Table 14).

While there are not many available data on illegal migrations, it is generally understood that most of illegal workers from Indonesia prefer to go to Malaysia because of the distance and similarities in language and religion. The Ministry of Manpower in Malaysia estimated that until November 1998 there were 72,191 illegal workers from Indonesia working in Malaysia.<sup>9</sup> It was also reported that in 1997, Malaysia deported 38,153 illegal Indonesian workers, and until October 1998, again Malaysia deported 52,000 workers from Indonesia.<sup>10</sup> This shows that there has been an increasing number of Indonesian crossing the border and working illegally in Malaysia following the crisis. Around 1,700 illegal Indonesian workers were estimated to enter Malaysia from Sarawak (in Kalimantan Island) every month.<sup>11</sup> The illegal workers crossing the

<sup>9</sup>*Bisnis Indonesia*, "Calo Puas Memeras, Pekerja Memelas", 6 November 1998.

<sup>10</sup>*Republika*, "Malaysia Mendeportasi 10.000 TKI Ilegal", 21 March 1998.

<sup>11</sup>*Kompas*, "1700 per bulan, TKI Masuk Sarawak", 23 April 1998.

Table 15

THE NUMBER OF FOREIGN WORKERS  
IN INDONESIA BY MAIN OCCUPATION

Classification	1996	1997	1998
Executives	12.663	8.762	9.497
Professionals	11.163	12.969	7.206
Supervisors	8.281	5.409	3.864
Technician/ Operators	16.551	10.052	12.864
Total	48.658	37.192	33.325

Source: the homepage of the Department of Manpower, taken in July 1999.

Malacca Straits border by boats (*pongpong*) were estimated to be around 6,000 people monthly.<sup>12</sup>

During the booming periods of the early 1990s, the number of foreign workers in Indonesia increased significantly. Most of them were professionals and executives, hired mainly because of the scarcity of skilled labor in the domestic market. The depreciation of the Rupiah had clearly reduced the ability of domestic companies to employ foreign workers. The data from

<sup>12</sup>*The Jakarta Post*, "Steps to protect workers slow compared to promotion", 18 December 1998.

the Department of Manpower (see Table 15) show that during the booming years in 1996, the number of foreign workers in Indonesia was around 48.7 thousand workers. In 1997, the year when the crisis started, the number decreased to 37.2 thousand and in 1998 it decreased further to 33.3 thousand. From 1997 to 1998, the number of foreign professionals declined significantly from around 13 thousand to 7.2 thousand workers.

## Conclusions

Empirical evidence from the National Labor Surveys shows that, until 1999 the Indonesian labor market has been very flexible. Adjustments have been relatively rapid, in which early adjustments occurred in real wages followed by adjustments in unemployment as real wages recovered. Furthermore, an initial reaction to the crisis in its worst period in 1998 was a reversal of previous labor market transformation trends: from formalization to informalization, from urbanization to ruralization and from a shift away from agriculture to a movement back into agriculture. However, this reversal did not last for long. As the formal, modern -- and mostly urban -- sectors recover, albeit slowly, the pre-crisis transformation trends can already be seen within two years from the beginning of the crisis in 1997.

Meanwhile, the flexibility of the labor market had absorbed the negative impacts of the crisis. Because of the overshooting inflation, real wages in 1998 had gone back to the level in the late 1980s while labor productivity was similar to that in the early 1990s. The structure of the labor market, such as the formal-informal, sectoral and rural-urban composition, resembled the condition in the early 1990s. The changes in these indicators matched the small decline in the personal consumption expenditure in the GDP figures.

The flexibility of the Indonesian labor market, however, should not be taken for granted. As Indonesia is becoming democratic, labor unions will have stronger bargaining power against owners of capitals and the government. As such, it is likely that they will push for higher wages, and yet, due to the slow economic recovery, this increase in wages might not correspond to an increase in labor productivity. This trend can already be seen from the 1998 and 1999 data, as real wage grew by 10.5 percent while labor productivity declined by 1.1 percent (see Table 13). Under such a pressure, the government must be able to balance between accommodating the interests of labor unions and maintaining the flexibility of the labor market. The increases in minimum wages for the last two years have outstripped the increase in labor productivity; and, further increases in minimum wages should be conducted very carefully.

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