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THE POOR OF INDONESIA

THE IMPACT OF ECONOMIC DECLINE, RAPID GROWTH, AND CRISIS, 1952–2003

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EXECUTIVE SUMMARY

LESSONS FROM INDONESIA, 1952-2003

The key to understanding Indonesia's remarkable record in reducing poverty was its success in creating demand for unskilled labor from productive enterprises. What mattered to poverty reduction was:

i.) *The speed of growth*. When per-capita income declined the poor suffered disproportionately; when it increased rapidly the poor benefited disproportionately.

ii.) *Its labor intensity*. The greater the share of unskilled labor in the increase in income, the greater the benefits for the poor.

iii.) *The rate of inflation*. When inflation accelerated, wages of unskilled workers lagged. Since compensation for their labor was the principal source of income for the poor, they suffered from declining real wages and labor compensation more generally.

iv.) *The size and effectiveness of targeted or Social Safety Net [SSN] programs*. Indonesia developed successful labor-intensive public works and micro-credit programs that helped the poor and the near poor.

v.) The effectiveness of *economic policy, especially macro-economic policy, primarily determined the speed of growth, its labor intensity and the rate of inflation*.

GROWTH, LABOR INTENSITY, INFLATION AND POVERTY

The impact of these factors on poverty can be seen in a brief history. From 1960 to 1967 per capita income declined almost 15 %. Labor-intensive sectors declined more rapidly because the limited growth, following the Russian model, was more capital-intensive than warranted by the factor endowment. With little increase in labor demand and a 20% increase in the labor force, excess labor pushed down wages. Inflation accelerated to 600% a year when Indonesia could no longer finance rice imports to make up for declining output. Real wages of the poor declined brutally, perhaps by 5 % as a result of slow, capital intensive growth and accelerating inflation.

During the next 30 years per capita GDP rose at nearly 5% a year. Labor-intensive sectors led that growth. Inflation decelerated, from 600% to zero within a few years. Poverty was reduced from about 60% to 15%, perhaps the fastest among populous countries. The real expenditures/income of the poor quadrupled.

The Monetary Crisis of 1997-99 hit Indonesia hard: per-capita income declined 6-7% a year, especially in labor-intensive construction, trade and services. Inflation rose to 40 percent a

year. Poverty incidence increased by 50–100 percent; the real expenditures of the poor fell 20–30 percent and real wages of unskilled workers declined even more.

Recovery was slower than in other hard-hit Asian countries: per-capita growth was 2.5 percent, half of what it had been earlier. Labor-intensive manufactured exports and food agriculture grew especially slowly, but construction grew faster. Inflation was low initially but accelerated after 2000. What happened to poverty and the poor is in dispute.

Over 30 years of rapid growth different sectors drove the demand for unskilled labor:

- Agriculture, especially rice, was dominant until 1972 and important until 1987;
- Manufacturing became significant by 1972 and played the dominant role from 1987 on;
- Construction had a smaller role. But its collapse was important in transmitting the Crisis to the poor. Labor-intensive public works were a major source of demand for labor in several periods.

Over the whole period of rapid growth inflation averaged 14.5 percent, high by some standards. But this does not seem to have slowed growth or affected poverty. However, real incomes of the poor stagnated as a result of accelerating inflation during two sub-periods [1972-76 and 1989-91] and again from 2000 to 2002.

MACRO-POLICY AND GROWTH

Growth, labor-intensity and inflation were largely determined by macro-economic policy. Key was the management of the exchange rate. The decline in per capita income until 1967 was the result of a thoroughly distorted economy, with perverse incentives. The extent of government ownership and control was comparable to Eastern Europe. But central control was more costly than in the Communist countries because of Indonesia's size, diversity, weak governance and poor infrastructure. A grossly overvalued currency led to capital flight, widespread smuggling of exports and imports, a sharp drop in government revenue, and a decline in production of tradables. The period ended with hyperinflation, inability to service foreign debt and civil strife.

Indonesia was set on the path to rapid growth during an initial period [1967-71] of structural reforms that achieved "expansionary stabilization." Monetary restraint and expanding supplies of goods and services controlled inflation. Greater reliance on market incentives, most notably a realistic exchange rate, and additional foreign aid, achieved this unusual feat. Subsequently the exchange rate, combined with subsidies on inputs, made it profitable to adopt existing improved agricultural technology. Growth was rapid in labor-intensive rice agriculture, supported by labor-intensive rehabilitation of the rural infrastructure. The oil boom helped, by financing these labor-intensive public works.

Indonesia, unlike most major oil exporters, dealt successfully with the Dutch Disease that accompanied two oil windfalls. The first oil boom was used to fund the development of infrastructure; the second went partly to labor-intensive construction of schools and the hiring of teachers to achieve universal primary education. Oil money also allowed government to fund a complex system of open and disguised subsidies to keep parts of industry and agriculture viable. These interventions were often inefficient and distorted incentives, led to corruption and ill-gotten rents, and slowed growth, but they kept agriculture and manufacturing growing during the oil booms by raising the real effective exchange rate. Oil money therefore did not unduly harm the poor, as it did elsewhere by undermining the labor-intensive tradable goods sectors or by fueling inflation.

With the end of the second oil boom the inefficiencies of government-fostered distortions and an increasingly uncompetitive exchange rate could no longer be supported. Indonesia again responded in 1986: a massive devaluation was the centerpiece; accompanied by lower tariffs; a temporary stabilization of the rice price; liberalization of foreign private investment and of imports. Rapid growth of labor-intensive manufactured exports was the result of devaluation, more foreign investment and cheaper imports. With the devaluation partly compensated, inflation did not increase rapidly. The reforms made Indonesia competitive in the world market, especially for labor intensive, footloose industries. Demand for labor in industry rose rapidly. Construction, trade and services also grew. With inflation controlled and demand for labor strong the income of the poor increased more rapidly than before the reforms of 1986/7.

The Asian Monetary Crisis was aggravated by structural factors. Distortions had been allowed to worsen as the economy boomed. As a crisis of confidence swept in from Thailand a large inflow of capital turned into a large outflow. The turn-around was equal to 25-30% of GDP, enough to cause a crisis in any country. Corruption, inequality and authoritarian rule were less tolerable when the majority was no longer prospering. Widespread rioting worsened the economic situation, which further angered people.

Per capita income fell by 15%, but expenditures and incomes of the poor fell by more than double that, as inflation in food prices exceeded 100%, the demand for labor in construction collapsed, and declined in manufacturing. About 5 million workers crowded into work- and income sharing activities, mainly in agriculture, or were added to the unemployed, putting pressure on wages throughout the economy. Recovery was also slower than in other Crisis-hit countries. Private net capital flows continued to drain at least $10 billion a year from the economy. Vast debts had to be written off and most banks remained in precarious condition. Political uncertainty and labor strife, widespread corruption and a largely dysfunctional justice system remain a fact of life. Terrorism became a factor in 2001.

That Indonesia nevertheless recovered quickly is substantially due to the flexibility of the economy. The exchange rate was allowed to perform its equilibrating function: providing incentives to exports strong enough to overcome the risk plaguing the economy. Rapidly rising exports of cash crops and some manufactures kept hundreds of thousands employed that might otherwise have been added to the ranks of workers who had lost their jobs and fueled riots and ethnic strife. The labor market was another element of flexibility: wages

adjusted downward in real terms with remarkable speed. Workers moved from the collapsing construction sector to rural jobs with equally remarkable speed. The result of flexibility was a brutal decline in real wages, but wage flexibility also helped to revive the economy and kept poverty from deepening.

By 2002 per capita income was still 8.5% below where it had been in 1997. There is conflicting evidence on poverty. Poverty incidence, and nutrition data all suggest poverty is down to near pre-Crisis levels or better. But wage and employment data imply that the poor are still significantly worse off than they were before the Crisis and that there has been little improvement since 2000. Expenditure data for the poorest 40% also are down if the price index used is one that reflects the consumption pattern of the poorest 40%. Significant further improvement in the well-being of the poor requires acceleration in the rate of growth, which has always been the main hope of the poor.

Increasing regional disparities with respect to poverty are an important development. Areas exporting labor-intensive agricultural products have boomed as the depreciation of the currency has made their exports more profitable. Their increased demand for labor has increased real wages in these regions up to 30% percent over 2000. Surplus rice farmers have also done well as a tariff has pushed up the price of rice. So have the handful of workers who still have jobs in the organized sectors; their real wages have increased by 50% since 2000, pushed by effective, rising minimum wages. But agricultural workers outside the booming areas have suffered; their real wages have declined, as 15% more workers have pushed into agriculture, while inflation has pushed up their cost of living, partly because of protection. With some areas better off and others worse off, averages on poverty may be misleading.

INDONESIA'S PROGRAMS FOR THE POOR

Indonesia was at the forefront in successful programs for the poor. Labor-intensive infrastructure development programs were sufficiently large and well-targeted for a measurable impact on real wages. By providing work to the poorest in the off-season, during drought or other periods when jobs were hard to find they helped maintain wages when they would otherwise have been lowest and prevented much distress. They also speeded growth by constructing the local roads, irrigation works and schools crucial to agricultural and rural development. Success was due to:

1. Self-targeting, by setting wage rates so low that they attracted only the poor. The program provided work to a significant 10% of the total labor force in some years;

2. Decentralization of project selection and implementation reduced delays, ignorance of local conditions and inflexibility; and

3. National criteria for project selection, publicity for funds allocated and goals set, and an independent inspection system to reduce waste, corruption and diversion of benefits to the elite.

Indonesia also has the largest successful program for micro-credit. While successful in providing credit it did not make a clearly significant contribution to poverty reduction. Success was due to:

1. Self-targeting and self-financing by charging interest to cover costs and yield a profit; limiting the size of loans; achieving a repayment rate over 95 percent which made the program unattractive to larger borrowers, but still cheaper for those whose alternative is the moneylender.

2. Credit was combined with savings facilities. Safe and ready access to savings and temporarily excess funds is important to rural families and businesses; improves the functioning of the rural economy; reduces the cost of credit; and assures a ready source of rural finance.

3. The micro-credit and savings programs were run on commercial lines, with incentives for staff to search for efficiencies in collecting as well as extending loans and expanding deposits.

4. Small local offices were delegated all decisions on micro-credit and held to account for performance, reducing costs and speeding decisions.

These and other targeted programs helped groups and areas inevitably left behind by market-driven growth and made some of the political cost of pro-market reforms more acceptable. Together with their contribution to a more efficient economy this made them an integral part of pro-poor growth.

THE POOR OF INDONESIA: THE IMPACT OF ECONOMIC DECLINE, RAPID GROWTH, AND CRISIS, 1952-2003

Indonesia's poverty record is remarkable: 30 years of rapid growth with a remarkable record in reducing poverty; preceded by a long period of stagnation accompanied declining incomes for the poor; and followed by an economic crisis with dire consequences for the poor. The first period started with the Great Depression in 1929 and ended nearly 40 years later. It was one of stagnation or decline in per capita income and resulted in a major decline in the income of the poor from 1955 to 1966. The second period covered the next 30 years to 1997 and saw rapid per capita income growth and a dramatic decline in poverty, hailed as one of the most successful reductions in poverty in the world. The Asian Crisis of 1997/98 ushered in a dramatic drop in per capita income, especially in the incomes of the poor. By 1999 the economy was recovering, but growth continued to be slow. The income of some of the poor remains well below what it had been before the Crisis and there is uncertainty whether poverty as a whole is back to the low rate before the Crisis or not.[*]

PART I:
THE RELATIONSHIP OF ECONOMIC GROWTH AND POVERTY

Clearly during each of these three periods higher growth resulted in lower poverty. Within each period they were broadly related as well, but the correlation is far from perfect. The first part of this paper analyzes the economic strategies, the policies, and other factors that resulted first in stagnation and then in consistently high growth; how they affected the poor; and why the relationship between rates of growth and poverty diverge during some periods.

CHAPTER ONE
THE PERIOD OF STAGNATION IN PER CAPITA INCOMES

Growth from 1929 to 1967: The Great Depression, World War, Independence Struggle, Continued Strife and Economic Mismanagement

Data for this period are poor, often crude estimates, but most sources roughly agree. During its Colonial era Indonesia was hard-hit by the Great Depression. It was more export- and trade-dependent than most South and East Asian countries and therefore more affected by the decline in the price of commodities traded in the world market. A recent paper shows an index of per capita GDP at 100 in 1928 and falling to a low of 83 in 1934 and rising back only to 93 by 1937.[1] The Depression was followed by the Dutch "scorched-earth" policy,

[*] Footnotes extend the argument and are at the bottom of the page. Statistical details and references in Arabic numbers are Endnotes. Supporting tables in the paper; background tables in Appendix A. Table 1 summarizes the economy.

Japanese occupation and a war for independence against the Dutch lasting five years. Even after Independence in 1950 the country remained in turmoil: conflict with the Dutch continued, followed by conflict with Britain/Malaya; an attempt by major Other Islands to break away from Java and the government located there; low intensity guerilla warfare by Muslim extremists; and finally the precipitous nationalization of Dutch assets in 1957/58.

Economic policy added to the problems. Indonesia became a highly centralized and government-controlled economy. Government owned and managed nearly all plantations, large industry, international trade and large-scale domestic trade. Managers of plantations and other enterprises were appointed on the basis of bribes or political connections. The currency was disastrously overvalued: the official exchange rate at one time was Rp. 90/US$ while the free market rate in Hong Kong was Rp. 1,000/US$. As a result smuggling boomed. Recorded and taxed exports declined. The secular decline in the economy was aggravated by population growth of about 1.5-2%, which made the islands of Java and Bali probably the most densely populated agricultural area in the world. Government ownership and control over the economy was comparable to that of Poland during its Communist era. Per capita income in 1960 was well below what it had been in 1930[2].

From 1960 to 1965/67 per capita income declined 0.2% per year, using official data, but this is likely overly optimistic, since agricultural and industrial output per capita both declined more.[3] Indeed van der Eng calculates the per capita decline at 1.6% a year, and that figure is used in this paper.

Work- and Income-Sharing or Job and Income Creation?

The issue of estimating GDP relates to a broader statistical/conceptual problem that plagues many studies of poverty in labor-abundant countries like Indonesia. In poor countries, with no unemployment insurance, the poor cannot afford to be unemployed for any length of time; they need some income every week if they are to survive. Employment and unemployment data therefore can be misleading. If fewer unskilled workers find employment in construction, as they almost certainly did between 1955 and 1965, they must earn income somewhere. They crowd into “work- and income sharing” activities: petty peddling, scavenging, and a whole host of informal sector occupations, usually classified as either trade or services. The most important “work- and income sharing” sector was agriculture, with workers crowding into the family’s land holdings, or participating in the harvest where every worker gets a share of the crop harvested. Total output may increase very little when there are 50 people harvesting rather than 30 or when there are 4 peddlers on a street corner rather than 3, but the income is shared among more workers. In economic terms, marginal product is close to zero but a social system of work- and income-sharing assures that the income derived by each worker is close to average product[4].

Table 1: Growth and Related Variables, 1960-2002

	1960 to 1967	1967 to 1997	1967 to 1972	1972 to 1981	1981 to 1986	1986 to 1997	1997 to 1999	1999 to 2002
Ave. annual % rate of growth - of GDP - of GDP per capita	0.1 to 0.4* -1.5 to-1.9*	**6.8** **4.7**	7.9 5.6	7.6 5.1	4.3 2.3	6.8 4.9	-6.4 -7.8	4.0 2.5
Exports ($ billion) ▪ Oil and Gas ▪ Non-Oil	0.7 0.2 0.5	**19.9** **8.9** **11.0**	1.1 0.5 0.6	12.6 8.9 3.7	19.8 14.3 5.0	34.4 10.1 24.2	50.8 8.8 42.0	60.5 13.4 47.2
As % of GDP: ▪ Foreign aid[1] ▪ Private capital	3.0 1.0	**2.8** **1.6**	3.6 1.6	3.5 -0.1	4.4 1.5	1.2 3.1	5.9 -9.0	0.5 -4.9
Rate of Inflation	262.3	**14.1**	26.4	17.5	8.6	8.1	39.8	10.6
Exchange rate (Rp/USD)[2] ▪ 2nd Year of period ▪ Last Year	45 235	**326** **4650**	326 415	415 644	693 1074	1650 4650	8025 7085	9595 8940
Oil Prices (1995=100):[3] ▪ 2nd Year of period ▪ Last Year	na 10	**10** **109**	10 16	23 201	201 164	106 109	71 101	164 na

* Growth rates for 1960-1967 calculated using data from van der Eng, with oil at both official prices or at lower shadow prices. Use of shadow prices is justified by the utterly unrealistic official exchange rate in these years.

[1] Foreign Aid is taken as equal to "Net official capital".

[2] The official exchange rate. "Second year" means 1961, 1968, 1973 etc; to avoid repeating the last year of previous period.

[3] Index number.

Sources: GDP '60-67 from van der Eng. GDP 1967-02 calculated by Jammal from BPS data. Note: the first year is the base from which growth calculated as the compound annual growth rate to the terminal year. Other: 1960-1995 from BPS 1997; For 1996-2002 from Bank Indonesia.

As a result, when an economy stagnates employment data can still show increases in the number of workers in agriculture, trade, services and small-scale industry, even if few productive jobs have been created. But the additional workers are sharing a virtually unchanged output and income because they cannot find employment in growing sectors with a positive marginal social product. It is then misleading to interpret these data as showing an increase in demand for labor when they just reflect an increase in the labor force and no increase in formal sector jobs. The increase in work- and income sharing in these sectors then is reflected in declining real wages: wages decline with an increase in the supply of labor to work/income-sharing sectors and no increase in demand for labor. This is what happened in Indonesia in 1960-67, as discussed further below.

Government also had many of the characteristics of a work- and income-sharing sector. Government enterprises and offices were grossly overstaffed. Still, additional persons were

hired under political pressure, compensated in part by reduction in the real wage of each employee by allowing the rate of inflation to outstrip the rate of wage increases. For that sector, as well as for much of Services, changes in value added are usually estimated on the basis of numbers employed. So if 20 people are now in an office doing the work that 10 used to do, it is assumed that value added has doubled, even if all that has happened that more of the workers spend more time reading the newspaper. When all overestimates of growth are corrected, the decline in annual per capita incomes from 1960 to 1967 is likely to be closer to minus 1-2%, used in this paper, than to the official minus 0.2%.

The Rise of Perverse Incentives

As government owned and controlled much of the economy perverse incentives proliferated, of which a grossly distorted exchange rate was the most important:

- At an official exchange rate of Rp 90/$ when the Hong Kong rate was Rp 1,000/$ exporters were guaranteed bankruptcy if they exported at the official rate and used imported inputs bought at the Hong Kong rate. Officially most imports were also priced at Rp 90 to the dollar. But in fact most buyers had to pay close to the Hong Kong rate by a combination of high tariffs, the bribes required to obtain import licenses, exorbitant mark-ups by those able to obtain imports at the official rate or by purchasing abroad using illegally obtained foreign exchange. On the other hand, exporters who smuggled out their goods and sold them for dollars to be exchanged for Rupiah in Hong Kong, and avoiding heavy export taxes, were guaranteed handsome profits. No wonder recorded export production declined and an increasing proportion went out illegally[5].

- Any importers able, through bribes or political influence, to purchase imports at the official exchange rate and to sell them in the market could earn a huge profit, especially if they avoided import duties. The ablest entrepreneurs therefore focused on extracting import licenses from government officials, not on increasing output or efficiency.

- The credit market was distorted by controlled interest rates which enabled favored borrowers to obtain loans at negative real interest rates. Many borrowers found that loans from these state-owned banks were not expected to be repaid, but could be rolled over, with interest added to principal, and only a bribe to be paid. This encouraged reckless investment and subsidized stockpiling of goods.

- Many prices were controlled. For instance, batik producers in an official cooperative could buy imported cloth at a low price. Newcomers had to pay a far higher price. The favored producers increasingly resold the cloth to newcomers at a profit and stopped producing batik. Since the newcomers had to pay the market price the cloth subsidy failed in its main purpose of increasing production and instead discouraged innovation.

These distortions were aggravated by widespread corruption, inevitable when civil servants' pay was literally inadequate to feed their families, much less to pay for other needs. A small minority had other choices: income from family-owned land or business, or government-

sponsored trips that provided access to foreign exchange and foreign goods to be sold in Indonesia at a good profit. A few managed with multiple jobs. The great majority had no such alternatives. Naturally and inevitably most preferred bribes to starvation. The powerful military also received only a fraction of needed resources through the budget and had to raise the rest through business operations directly, or through payoffs indirectly. Increasingly some government positions were for rent, including managers of plantations. Since managers held the position only as long as their patron was in office they had every incentive to maximize short-term income to earn a return on their "investment" before they lost the job. Investing in the enterprise made no sense, selling off assets did. Rubber plantation managers, for instance, could benefit from "kill tapping" which maximized rubber production in the short term but soon killed the trees.

As a result of distortions, which resulted from perverse incentives, assets were run down, investment and government revenue declined, per capita output and income fell. As government funded its deficit by printing money, inflation reached 600% a year[6]. The justification for most distortions was that they benefited the poor: price control would keep goods within their reach; an overvalued currency enabled the government to import rice and other necessities at a low price; export taxes squeezed the rich foreign owners of plantations - until they were nationalized- also allegedly to benefit the common people. An important question then is how the poor did fare in this period, when government economic policy was supposedly designed to benefit them?

The Poor during Economic Stagnation and Decline—A Slow Disaster

No solid income distribution data exist for the period 1959-67 and most of the work largely ignores the issue of poverty. The best indication of what happened comes from wage data for the plantation and other sectors. These data are consistent: from the mid-1950s to the mid-1960s real wages declined brutally [Table 2] for workers in industry, government and the plantations, despite their great political and trade union power, unprecedented in South and Southeast Asia. A large and effective trade union movement had organized virtually all large enterprises. The Communist Party had also organized many of the workers in agriculture and was a political power at all levels of government. It had gained its electoral strength by looking out for its constituency, which encompassed many of the poor. Publicly owned enterprises, as elsewhere, were subject to political and labor pressure to raise wages and for better working conditions. Regulations to favor workers mirrored those of advanced welfare state economies. Yet, despite their political and trade union power, despite all laws and government interventions on their behalf, workers suffered grievously as the economy deteriorated.

Real wages for plantation workers declined by about 70%. That is, by the mid-1960s the average money wage of plantation workers was only one-third of what it had been in the mid-1950s. Real income probably declined less because opportunities for side income increased[7]. The impact on workers' wages was across the board: from 1961 to 1965 there

Table 2: Changes in Real Wages of Unskilled Workers and in Prices Mid-1950s to Early 1970s (in percent)

REAL WAGES Percent change in:	Mid-50s to Mid-1960s	Mid-60s to Early 1970s	1972 to 1974
Plantations			
Java	-75	112	-12
Sumatra	-48	54	-26
Indonesia	-70	100	-15
Industry			
Large	-54	61	na
Medium	-33	92	na
Large & Medium	-59	156	19
Household servants	-72	na	na
INFLATION Average rate in:	**Mid-1950s to Mid-60s**	**Mid-1960s to Early 1970s**	**1972 to 1974**
Java	192	10	40
Sumatra	199	6	46
Indonesia	190	9	42

REAL WAGES - Monthly in 1969 Rp.	***Mid-1950s***	***Mid-1960s***	***Early 1970s***	***1972***	***1974***
Plantation-Indonesia	*4,658*	*1,383*	*2,762*	*2,724*	*2,306*
Industry-Small & Medium	*3,961*	*1,613*	*4,127*	*5,144*	*(1975) 4,916*

Notes: For Plantations, the growth of real wages are calculated by comparing the average of 1953 and 1954 with the average of 1963, 1966, and 1967; and that average with the average of 1970 & 1971.
For Industry the Large and separate Medium categories are yearly wages for all workers from Pitt.
"Large" compares the average wages of 1954 & 1955 with the average of 1964 and 1965; and that average [1964 and 1965] with the average of 1971 and 1972.
"Medium" compares the average wages of 1958 and 1959 [because no earlier data are available] with the average of 1963, 1965, and 1966; and that average with the average of 1971 and 1972.
"Large & Medium" are monthly wages from BPS, "Industrial Census"; comparing 1955 with 1963; 1963 with the average of 1970 and 1972; and that average with 1975. [other appropriate years not available].
Household servants' wages compares 1964 with 1954, from Pitt.
Rates of inflation are the average rates for 1958 to 1967, 1969 to 1972, and 1973 to 1974, to reflect periods of accelerating and decelerating inflation.
Sources: Tables 4.3, 4.5 and 4.6 in Papanek 1980 for real wages. Prices from: Papanek and Dowsett.

was a 65% decline in real wages for household servants; plantation workers; employees in the government electric enterprise; for unskilled workers in large textile firms the decline was nearly 60%; for all workers in industry wages fell by between 30% and 60%. These declines are brutal indeed for unskilled workers whose income was already low.

Two factors explain what happened. First, runaway inflation benefits those who have goods to sell and hurts those who derive most of their income from unskilled labor. Inflation accelerated during much of this period and finally reached a rate of 635% for all of 1966. Money wages tend to lag behind when inflation is accelerating, as discussed below. Regression analysis confirms the impact of the rate of inflation. For nominal plantation wages the coefficient for the effect of the rate of inflation in the current year tended to be around 0.6. So when inflation accelerated from 0 in 1956, first to 38%, then to 140% and 500% nominal wages had risen on average only by 60% to 70% as much as prices[8]. The effect of constantly accelerating inflation from 1956 to 1966 was therefore devastating for the income of the poor. Surplus farmers, those who produced more rice than they consumed did not suffer from inflation, unless they were forced to sell at controlled prices, but farm laborers suffered. Conversely real wages rose dramatically, by 50-100% when inflation slowed from 500%, first to 100% and then to 7% in 1969-71.[9] The absolute numbers show that by the early '70s real plantation wages were still almost 40% below where they had been in the mid-1950s. And when inflation again soared to 40% for the two years 1972-74, plantation wages again declined sharply but briefly.

The second factor in declining real wages from the mid-1950s to the mid-1960s was the decline in demand for labor as the economy declined. The demand for unskilled workers proved to be the principal determinant of labor compensation in the medium term. Changes in labor compensation, in turn, are the principal determinant of the income of the poor. [See Appendix B and below for the relationship among real wages, labor compensation, the income of the poor and demand for labor.]

A final factor in the disproportionate decline in real wages was power: as per capita income declined the poor were less able to protect their interests than the more powerful. Managers could sell part of the output in the black market to be smuggled abroad. Military officers or government officials did well if they controlled access to scarce import licenses or dealt with taxes or tariffs, or could award coveted appointments to government or management positions. When total income to the plantations or factories declined it was the income of the workers that suffered the most. For government-owned firms the situation of workers was aggravated by political pressure for overstaffing. The number of workers per hectare of rubber plantation increased by 25% between 1955 and 1963. Declining real amounts available for the wage bill had to be shared among more claimants.[*]

[*] As real wages declined more labor would be hired in a market system. Therefore an increase in labor force, in theory, need not indicate overstaffing and need not reduce wages. The causality could run the other way: lower wages led to increased hiring. But in Indonesia the plantations were already overstaffed in 1955 as the result of political pressure; the marginal product of labor may well have been zero. Interviews of plantation managers indicated that after the change in government allowed them to do so they massively reduced the labor force.

CHAPTER TWO
THIRTY YEARS OF RAPID GROWTH: 1967-1997

The period 1967-97 was one of unprecedented growth, averaging almost 7%, as a result of a series of reforms that moved the economy from one that was tightly controlled by government and highly centralized to a more market-driven and decentralized one. By general consensus macro-economic management was very good by comparison with most governments subject to political pressures and personal interests. Reforms were carried forward during periods of economic difficulty, usually as a result of declines in oil prices, followed by backsliding on the reforms when the economy prospered as a result of an increase in oil [and later natural gas] prices.

Factors Contributing to 30 Years of Rapid Growth

Successful Expansionary Stabilization—The Key Ingredients

The change in the performance of the economy was dramatic: from a decline of about 1% in per capita income in 1967 to a growth of per capita income of nearly 9% in 1968. Over the next 6 years growth was never less than 6.8% and per capita income growth never less than 4.5%. The military government, which took power in 1965-66, at first was inclined to do what military governments know best: issue orders and reinforce controls. Fortunately some key players in the government had come to know an able group of economists because they had taught at the Military Staff College[10]. Known as the "Berkeley Mafia", because many had studied there, that group successfully argued that tightening controls was unlikely to work, and that market incentives would. Their success initially was substantially dependent on their being seen as the best channel to get aid from the Western donor community.[11] But subsequently an effective symbiotic relationship developed among the military, which controlled political power; the economic group, who provided the economic management that produced visible and quick economic successes, a crucial element in the government's claim to legitimacy; and the foreign donors, who provided some of the resources important to that success.[12]

Expansionary stabilization had several elements:

1. Policy reforms which increased supply and reduced inflationary pressures.

2. Additional foreign aid which supplied wage goods to help tame rampant inflation and funding for the development program to provide jobs and increased output.

3. Donor support for a stabilization program that emphasized increasing supply rather than reducing demand. Indonesia's expansionary stabilization was in sharp contrast to the contractionary stabilization that was the norm in other countries and in Indonesia in later years. Rapid growth of over 8% in the 3 years from 1968 to 1970 helped to defuse and stabilize the political situation. Contractionary stabilization would have exacerbated the already considerable political problems of the new government. The reforms which

underpinned the success are worth some attention because of the lessons they hold for other countries and times.

The Key Reforms of 1967-70—Rapid Growth As a Result of a Mixture of Market and Government

The hallmark of the reforms introduced by the New Order beginning in 1967 was a greater reliance on market incentives, and market forces more generally, but within an economic system that was carefully managed by a team of economists that held most levers of economic power. In this respect Indonesia resembled South Korea and Taiwan, not Hong Kong. It did not adopt a "Great Leap Forward" strategy, nor was it persuaded that Jeffrey Sachs' memorable phrase, "you can not leap a chasm in two bounds" applied to economies. Rather the technocrats decontrolled selectively and strategically and with attention to sequencing.

Bringing the budget deficit and the money supply under control was crucial. Also important was the government's willingness to let the market influence the exchange rate and to carry out two substantial devaluations to keep the currency from becoming overvalued. The package effectively lowered the rate of inflation from over 600% a year to virtual stability, about 2% by 1971. The rate of growth, as noted earlier, responded remarkably, from less than 2%, a decline in per capita terms, to an average of about 7.5% over the next 6 years. Non-oil exports quadrupled, but the base was so low that this had no impact on the economy as a whole [Tables 1 and 4].

The central role of a flexible semi-market exchange rate

The key decision in the reforms was the move to a market rate for foreign exchange, albeit a managed one, and the freeing of foreign exchange transactions. It made sense to focus initially on the exchange rate because it was especially distorted[13] and it was especially powerful in Indonesia, an economy heavily dependent on the export of raw materials and the import of most finished consumer goods, intermediates and machinery. Moreover, it was especially difficult to exercise control over foreign exchange transactions. Smuggling was difficult to control in an island economy with many ports and with a civil service that was both weak and corrupt[14].

The technocrats did not move to a free market exchange rate immediately. They feared the inflationary impact of that step and the likely overshooting of a sustainable rate if the system was freed totally after decades of a fixed exchange rate that had become totally unrealistic. The first step was to renegotiate foreign debts to reduce the drain from that source. Second, in 1966 they ended the import licensing system, a major source of inefficiency and corruption. Third, they moved to a dual exchange rate, from a complex system of differential export subsidies, set by government, and another source of inefficiency and corruption.

The low fixed exchange rate continued for traditional exports, mostly raw materials and oil, and for imports of staple foods and petroleum products. Consumer luxuries and semi-luxury imports could be imported freely at a higher exchange rate set in a managed open market. That market was supplied by earnings from non-traditional exports more responsive to the

incentives provided by a higher exchange. The market set the second, higher, exchange rate. But the system was managed by varying the amount of incentive payments provided for non-traditional exports. At the beginning 50% of export earnings were converted at the fixed lower rate and 50% was paid in import entitlement certificates that the exporter could sell in the auction market to importers[15]. Later the proportion converted at the open market rate was increased. The new system built on one that had existed for several years but differed from it in important respects. First the higher exchange rate was provided to all exports, except the specified "traditional" ones, rather than limiting the incentive to existing, government-determined exports. Enterprising exporters could come up with new goods to export, such as a temporary surplus of cement. Second, the higher rate was not set by government, which could guess wrong and set it too high or low, but in the market. If Government underestimated the demand for consumer goods, for instance, the rate for import entitlement certificates would rise, encouraging import substitution and additional exports.

By expanding the coverage of the market rate with respect to both imports and exports the Government gradually moved more of both to the higher rate. By 1970 all imports and exports were moved to the market exchange rate[16]. However, intelligent management had assured that the market exchange rate would appreciate. Speculators rushed in to take advantage of what they confidently expected to be a one-way bet for higher exchange rates since all imports now had to be paid for at the market rate. The speculators were badly burned, as the market exchange rate fell below what it had been when the rates were unified[17]. That lesson assured that speculators would think twice before they assaulted the Rupiah in the belief that they could not lose. Once that lesson had been absorbed the Rupiah was devalued, with little risk that this would set off a run on foreign exchange that would force further devaluation. Exports increased and so did the proportion of exports flowing through legal channels and paying import duties and taxes. The effective management of the exchange rate helped government to deal with both the fiscal and balance of payments problems.

Partial tariff reduction

When import licensing was abolished, the retention of high import tariffs was a reasonable step to provide temporary protection to domestic industries, suddenly exposed to strong competition from imports. Over time the effective tariffs were allowed to erode, but political pressures forced periodic increases in specific tariffs and import controls. Exchange rate management and the management of capital flow were largely in the hands of highly competent technocrats. But except during periods of major reform, tariffs were decided by operating ministries, largely on the basis of particularistic pressures. They introduced major distortions and inefficiencies into the system, slowed exports and supported some industries that were clearly uncompetitive.

Opening to private investment, especially foreign private investment

Another major reform was the opening of the economy to private investment in general and foreign private investment in particular. Risk seemed high for private investors in the late 1960s and early 1970s. The government was believed to be unstable, under pressure from both Muslim fundamentalists and supporters of the ousted President Soekarno. There was a long tradition of government ownership and control, and scant evidence that the nationalist

and dirigiste beliefs had been abandoned. The technocrats in charge of the economy were untried and inexperienced and their influence was in doubt. Under the circumstances they concluded that it was important to attract a major foreign investor on a "loss-leader" basis; offering very favorable terms to overcome the natural reluctance of major investors to be the pioneer. The idea was to demonstrate that a different attitude prevailed and that the perception of Indonesia being high risk was not accurate.

The pioneer investor, Freeport, was willing to invest in a lucrative copper and gold mine on terms that proved very attractive in retrospect. But at the time the decision to offer such terms seemed perfectly sensible to most analysts to start a flow of needed foreign investment. Indonesia, like other countries in a similar position, found that once perceptions changed and foreign investors were eager to come in it could renegotiate the initial terms. However, Indonesian experience also demonstrates the difficulty of taking full advantage of changing circumstances to pursue the interests of the host country. By the time Freeport was well established and operating successfully it had also established ties with powers-that-be, primarily the President's family and the Army. Renegotiations then could mean primarily increasing the returns to those players, rather than to the country and its exchequer.

Decontrol of the capital market

The capital account was gradually decontrolled, until it was essentially unrestricted. In part decontrol was pragmatic: capital controls would be difficult to enforce, given the weakness of the civil service after years of starvation wages and the well-developed informal network of business families with members in several countries. It was widely believed that capital controls would primarily generate rents for the controllers and costs for investors without serving much purpose. Their abolition on the other hand provided assurance that investors could take out their profits and even their capital at any time and therefore substantially increased the willingness to invest.

The open system of foreign exchange worked well for Indonesia. Of course, it required larger foreign exchange reserves to deal with temporary runs than would have been necessary if there had been some controls. And it also required a reliable and prompt flow of information to the managers of the economy to prevent unmanageable strains and overshooting. Whenever there was a crisis the system was put under severe strain and there was always the risk that exorbitant interest rates would be required to keep the foreign exchange rate from spinning out of control. The technocrats dealt with one crisis by using their control over the public enterprise sector, large at the time, to withdraw liquidity from the system, literally overnight. The exchange rate responded and the crisis was defused[18]. But at the time of the Asian monetary crisis the absence of controls over capital flows, combined with inadequate information on private borrowing abroad proved costly. If capital controls had been in place they might well have slowed that devastating capital flight. But capital controls would have meant less foreign direct investment and thus slower growth during the prior 25 years.

Decontrol and private foreign investment

The totality of reforms enabled Indonesia to attract substantial foreign investment. Direct investment, especially from Japan, Korea, Taiwan and Singapore, became important in the growth of labor-intensive exports of textiles, garments and shoes. Foreign investors were also

crucial in oil and mineral development. Finally, beginning in the late 1980s foreign borrowing financed an increasing fraction of both fixed and working capital needs, with foreign private flows at 5% of GDP just before the Monetary Crisis.

Limited role for interest-rate, monetary and fiscal policy after stabilization
Reining in the money supply and the fiscal deficit was crucial to the initial bout of stabilization. After that monetary and fiscal policy played a more limited role in the reform. Early on the technocratic team established the crucial importance of a "balanced budget" to successful development. By making budget balance sacrosanct the technocrats avoided the problem of many Asian governments: pressures for increasing subsidies, social expenditures and patronage projects that resulted in increasing deficits with inflationary consequences. Even the President hesitated to approve a favored project or subsidy if he was told it would violate the balanced budget. But the technocrats preserved needed flexibility. "Balance" was largely defined as current expenditures not exceeding revenues. "Development" or investment expenditures were outside the balance. Since development has a broader and more flexible definition than investment there was some flexibility on what was included in the calculation of "balance". During flush times, when oil prices were high some expenditures—say for operating new schools or for labor-intensive public works- could be considered current expenditures, while in tight times they could be considered development. On the revenue side, too, there was some ambiguity and therefore flexibility, with respect to sales of government assets, or proceeds from sale of aid-funded imports. The balanced budget requirement proved a useful device for imposing fiscal discipline.

The technocrats also pushed constantly for market-determined interest rates, but they were never able to devise a criterion as seemingly simple and justifiable as "balanced budget" to sustain that push. Below-market interest rates and directed credit remained a major patronage vehicle and of importance in funding all sorts of off-the-book activities that were not subject to budgetary discipline.

The important role of foreign aid
Beginning with the stabilization period and continuing through the 1970s foreign aid played a greater role even than indicated by its proportion of GDP [2-6.5%]. Rice and wheat, mostly supplied by the US, added about 10% to the total supply in some years[19]. Cotton and cotton yarn imported under the aid programs increased the supply of cheap cloth, important in bringing inflation under control during 1966-72. Program aid, which financed fertilizer and other intermediates also helped by providing the imported inputs that were needed to put installed capacity to work to turn out consumer goods.

The proceeds from selling into the market both surplus agricultural commodities and Program Aid-funded goods helped finance labor-intensive public works. Indonesia, like Pakistan earlier, avoided the undesirable consequence often attributed to food aid given away free or at highly subsidized prices: depressing the price of food grains and therefore reducing domestic production and impoverishing farmers and farm workers. By selling aid-funded food at market prices and using the proceeds primarily for the wages of unskilled workers the government provided the poor with the wherewithal to buy the food and avoided depressing its price – the increased supply of food was matched by an increased total demand, much of it

for food. And of course the programs improved the rural infrastructure, reduced migration to the cities and actually contributed to greater agricultural production by expanding irrigation and drainage and lowering rural transport costs on rehabilitated roads.[*] The activation of existing industries by providing them with imported cotton, yarn and intermediate inputs also created jobs.

Program aid and aided imports of food and cotton continued into the 1970s, but gradually diminished in importance while project aid, helping fund development, increased in importance as executing capacity in Indonesia increased. In some years during the early period aid under all categories equaled the proceeds of non-oil exports in importance in funding imports. Subsequently aid increased again in the mid-70s, the early 1980s and the mid-1980s, usually as a result of a decline in oil revenue or more generally a deterioration in the terms of trade.

The role of aid in support of reform was a major factor in its effectiveness. Most reforms crucial to rapid growth hurt powerful groups. They had to overcome strong opposition from them. The technocrats did not have much of a political constituency to support them. Their ability to prevail stemmed in part from the belief of the political leadership that the technocrats and their policies were key to obtaining aid and attracting investment. Since rapid growth was important to retain political support from the groups benefiting from growth, the role of the technocrats as conduits of aid was a major factor in their influence.

Lessons from Dealing with Oil Booms and Dutch Disease

By the time the momentum of the early reforms was dissipating, the more favorable exchange rate and more hospitable environment for foreign investors had resulted in a rapid expansion of oil exports. Oil revenues tripled in current dollars from 1968 to 1972 as a result of increased production. Then oil prices rose sharply in 1973. By 1974 oil export revenue was more than five times what it had been in 1972[20]. Since oil provided 65-70% of foreign exchange earnings in the early '70s, its rapid growth provided a strong push to the economy. Private foreign investment also responded to the booming economy and grew from negligible to half a billion dollars in the early 1970s. It contributed to growth in timber and minerals exports and increased production of yarn, cloth and other simple consumer goods for the domestic market. Aid more than doubled from the mid-60s. But aid and foreign investment combined at $1 billion were dwarfed by oil revenue, which totaled $5-6 billion in the mid-70s. The result was continued growth for 1971-81, at about 7.5% a year.

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[*] Rapid growth of rice production 1967-78 [by 70%, according to Afiff, Falcon, Timmer] provides support for the argument that surplus food did not seriously affect production incentives. Timmer makes the good point that surplus commodities could have reduced the government's "will" to increase rice production until the 1973 world food crisis, but various earlier policy initiatives cast doubt on the strength of this conclusion. Moreover it is doubtful that the government would have been able to achieve expansionary stabilization, and the political stability, and indeed the survival of the government, it fostered, if it had not been for the taming of inflation and the creation of jobs in which surplus food had a major role. Timmer also suggests that the same amount of cash aid would have been better than food aid. But that is not a realistic alternative: neither the US nor Japan would have been willing to provide the same amount of cash aid; the realistic choice was between surplus commodity aid and less total aid.

A second oil boom kicked in during 1980-81, when oil export revenues doubled in current dollars. This provided a major, but brief, impetus to the economy. Oil revenue began declining in 1982 and by 1985 were down by about half in real terms, and declined by another third in the next year. For other major oil exporters the boom followed by a sharp decline in prices was a serious blow. Indonesia managed both oil booms far better than other oil-rich countries. It managed to limit the impact of "Dutch disease" problems on the economy during the booms and to use the busts to carry reforms further. That experience provides useful lessons and is therefore examined below. The oil booms turned out to be good for growth, but bad for dealing with structural problems and implementing reforms because they allowed a lot of problems to be ignored or hidden.

Continued good macro-economic management

Indonesian macro-economic policy continued to be largely managed by the technocrats, albeit with increasing interference from the political leadership. It continued to be sensible and effective. Again exchange rate management was key: the technocrats did not allow the Rupiah to appreciate despite the two spikes in foreign exchange inflows as a result of the oil booms. The 1978 devaluation was typical. In nominal terms and on an annual basis export earnings were rising nicely, especially for oil.[21] With an 8-fold increase in dollar oil revenue from 1972 to 1977 many speculators, including reportedly some generals, expected a revaluation and bought the Rupiah. But the technocrats recognized that in real terms oil and non-oil export revenue combined had barely increased from 1975 to 1978, too slowly to stimulate the income and employment growth important to the Government's legitimacy and support. A 50% devaluation [and limited other measures], rather than the expected revaluation were carried out, not because of a foreign exchange crisis but to restore the competitiveness of the non-oil tradable sectors. The devaluation and other policy changes resulted in a 60% increase in non-oil/gas exports [Table 4][22]. The rate of GDP growth also increased from less than 7% to 8.4%. Inflation accelerated, but was kept to an annual rate of 19% on average over the next 3 years. That meant that the benefits of the massive devaluation had been eroded by the third year. Since oil revenues nearly doubled again this did not create a serious problem, so only small further adjustments were made in the exchange rate.

By 1982 both non-oil and oil exports had declined again. The end of the oil boom cut nominal oil revenue slightly. But non-oil revenue fell by one-third, in part as the result of declining competitiveness as the benefits of devaluation had been eroded. A 40% devaluation in 1983 was the partial response of the economic team to total exports that had declined by more than 15%. Non-oil/gas exports rose by 50% from the pre-devaluation to the post-devaluation period [Table 4] and inflation was kept to a low 7% average annual rate. This was reinforced by sharp cuts in government investment in large prestige projects, reductions in other investment and some current expenditures and limited tax reforms. These reforms were partly offset by increased non-tariff trade barriers. They raised costs and prevented some industries from becoming competitive[23]. In short, periodic devaluations counteracted the pressure of large oil windfall income and underpinned the continued competitiveness of industry and agriculture.

Protectionism and subsidies
To keep traded goods competitive the devaluations were supplemented by implicit subsidies through tariffs, low cost loans and government investment and by explicit subsidies for fertilizer, other agricultural inputs, especially irrigation, and rice.[*24] They helped protect Indonesian farms and factories from international competition, allowing them to survive during the oil booms. Many of these micro-economic interventions were, however, costly in terms of the inefficiencies they created and could have been avoided by more effective macro-economic management. While Indonesia managed its oil booms better than other oil- or mineral-rich countries managed their Dutch disease problem the inefficiencies created in the economy by the implicit and explicit subsidies worsened the Crisis of 1997/8 when Indonesia could no longer afford to support uncompetitive enterprises.

Managing the Shift from Agriculture to Industrial Exports As Leading Sector

The central role of [rice] agriculture in growth in the first 15 years
The technocratic team realized, as China did later, that quick, cheap gains could be had in agriculture. Peasant agriculture is the quintessentially labor-intensive sector, where a small investment, combined with readily available labor could quickly yield large gains in output, if Indonesia took advantage of modern technologies and rehabilitated the infrastructure supporting agriculture. Others have discussed the essence of the agricultural development program carried out in the 1970s,[25] but its important elements are worth summarizing, because they are an important part of the story.

From 1967 to 1981 food-producing agriculture, primarily rice, averaged almost 5% growth, a high rate by world standards, and it continued to grow more rapidly than population for the next 5 years [Table 3]. High growth was the result of:

- A conducive policy environment. A guaranteed floor price for rice, backed by purchases by the food-price stabilization agency, facilitated the adoption of new technology, since farmers were relieved of the price risk for their rice. The guarantee also shielded farmers from short-term declines in world rice prices. Subsidized prices for fertilizer, irrigation and some other inputs encouraged adoption of the new fertilizer-seed-water technology.

- Technology, largely developed outside Indonesia, was available. The "Green Revolution" technology could quickly and substantially increase output.

- The rehabilitation and then the development of the rural infrastructure, primarily by the labor-intensive public works program, but also by large, more capital intensive development. Indonesia's rural infrastructure had been deteriorating for 30 years, especially the extensive road and irrigation systems in Java. Rehabilitation and expansion

[*] In the early '70s the world price was substantially higher than the domestic price [twice in 1973-4] at which the government stabilization agency sold it; the implicit, and sometimes explicit subsidy was to the consumer. Beginning in the early 1980s the domestic price averaged above the world market price thanks to the stabilization agency's minimum price guarantee. The implicit subsidy was to the producer [Hill 1996].

provided cheaper and faster transportation, more irrigation and, in the 1980s, better schooling and communications.

By the early/mid-80s the cheap gains for rice agriculture had been exhausted: the fertilizer-seed-irrigation technology had swept the parts of Indonesia where it was effective. The irrigation, drainage and road systems had been rehabilitated and the most cost-effective extensions had been completed. Indonesian research institutes had adapted the readily available seed varieties to Indonesian conditions. As growth in rice production slowed the growth of tree crop output accelerated in the 1980s and early 1990s as a result of privatization, the greater commercialization of publicly-owned plantations and the rapid expansions of privately-owned plantations, especially for palm oil. As a result agriculture as a whole contributed over 20% directly to the rapid growth of the Indonesian economy for the twenty years from 1967 to 1987 [Table 3].

Rapid growth in agriculture also had major indirect benefits because of its impact on the rural economy. It led to increased trade, services and transportation handling the additional output. Increased income for farmers and farm workers also contributed to rapid growth of rural industry and services. A very rough guess might be that agriculture contributed about 30-40% of growth directly and indirectly during the first 20 years of rapid growth. Both agriculture and the rural economy are labor intensive. Their rapid growth was therefore disproportionately important for poverty reduction.[*]

From 1986 to the present the role of agriculture was more modest. Moreover agriculture had adopted labor- and cost-saving technologies that added little to output, but decreased labor demand, especially Japanese rice hullers instead of hand pounding the rice and the use of sickles instead of the hand-knife to harvest it. Hand-tractors had begun replace hoeing and plowing by water buffalo. Future gains in output and in generating productive employment for food-crop agriculture would be hard-won and require difficult changes:

- The development and adoption of new technologies adapted to local conditions. The agricultural research and extension networks in Indonesia are weak compared to some Asian countries. Strengthening both institutions will take time and additional resources.

- A shift to higher value crops from the overwhelming emphasis on rice. Because of the secular decline in world rice price and climatic and soil conditions there are substantial areas where rice is not the highest value crop at world prices. Output and farmers' income could be increased by a shift to other crops. But government policies are designed to increase rice production, even at the cost of other crops, and farmers are accustomed to growing rice. A shift to vegetables, flowers, fruit and livestock for domestic consumption and export would require a major change in government programs and policies to support such a shift.

[*] Trade and Services contributed about 40% to growth during 1967 to 1986. If agriculture generates a part of these sectors that is proportional to its contribution to total "directly productive" sectors it would account for roughly one third of Trade & Services income or about 15% of GDP. Adding this to the roughly 20% which agriculture accounts for directly, then the direct & indirect contribution is notionally between 35% and 40%.

Table 3: Sectoral Growth Rates and Sectoral Contribution to Growth, 1960-2002 (in percent)

	1960-67		1967-97		1967-72		1972-81		1981-86		1986-97		1997-99		1999-2002	
	Growth Rate	Contrib to Growth	Growth Rate	Contrib to Growth	Growth Rate	Contrib to Growth	Growth Rate	Contrib to Growth	Growth Rate	Contrib to Growth	Growth Rate	Ctrib to Growth	Growth Rate	Ctrib to Growth	Growth Rate	Ctrib to Growth
Agric – div.																
Food crops:	*1.3*	*22.1*	***3.4***	***10.3***	*4.7*	*18.3*	*4.9*	*13.5*	*3.3*	*14.6*	*1.7*	*2.2*	*2.0*	*2.5*	*0.4*	*0.9*
Non-Food:	*1.7*	*8.7*	***4.3***	***3.2***	*2.5*	*2.9*	*4.3*	*3.6*	*6.2*	*6.5*	*4.4*	*1.6*	*1.0*	*0.4*	*1.9*	*1.3*
Livestock, Forest,Fish:	*1.5*	*6.7*	***2.9***	***2.8***	*5.3*	*5.6*	*0.4*	*0.4*	*2.0*	*3.2*	*4.4*	*3.2*	*-2.4*	*-1.9*	*3.2*	*4.2*
Agric - all	1.4	37.5	**3.5**	**16.4**	4.4	26.8	3.8	17.5	3.4	24.3	2.9	7.1	0.4	1.0	1.5	6.4
Mining	2.1	4.0	**6.2**	**4.8**	19.6	11.7	5.1	6.6	-1.3	-7.8	4.5	6.0	-2.2	-3.1	2.6	6.1
Manufactng.	2.0	8.5	**11.6**	**24.5**	10.1	11.2	13.1	21.5	7.1	25.9	13.1	32.4	-4.1	-15.9	4.7	30.8
Construction	-1.1	-1.0	**12.8**	**8.0**	25.0	7.3	14.0	8.5	2.3	4.0	11.0	9.8	-21.0	-24.7	4.7	6.8
Electricity, Transport& Comms.	1.9	3.8	**9.6**	**8.5**	9.9	5.2	12.7	8.6	5.8	10.3	8.6	9.0	-6.1	-8.1	7.8	17.5
Trade and Services	3.2	47.2	**8.1**	**37.8**	9.4	37.8	9.0	37.2	4.4	43.3	8.3	35.7	-9.3	-49.1	4.0	32.4
GDP	2.0	100	**7.1**	**100**	7.9	100	7.6	100	3.3	100	7.9	100	-6.4	-100	4.0	100

Note: Because of changing weights as a result of using series in different base years, the GDP growth rate calculated as the weighted average of sector growth rates, used here, differs from the total GDP growth rate shown in Tables 1 & 7. Because of the methodology the differences are great in the early years.

This table can be calculated in various way. For each of the periods the calculations were made with the weights and base years pertaining to that period. For the long series for 1997-97 the weighted average was taken.

Sources: BPS 1997 for data 1960-93. For 1994-2002 BPS *Indikator Ekonomi* for various years. Data are given in 1960, 1973, 1983 & 1993 prices. Series were chained together [at 1993 prices] by conversions factors in the overlapping years where necessary.

- Helping small-holders to market to super-markets, is of increasing importance in Indonesia. Supermarket chains do an increasing share of retailing in the cities.[26] They require large quantities of standardized goods of high quality delivered on a regular schedule.

All three changes are easier to implement by large, commercial farms using machinery than by small-holders using labor-intensive technology.[27] A shift from small-holder agriculture to less labor-intensive commercial farmers would be especially damaging for the poor.

The increasing role in growth of manufacturing, and especially manufactured exports
Some cheap gains were still possible for small-holders in tree crops, including tea, coffee and spices, and in livestock, forestry and fisheries. They grew more rapidly recently, at over 4% in the decade 1986-1997 [compared to 1.7% for food crops]. They were spurred by the massive devaluation of 1986 and other steps to provide incentives for exports, since a substantial fraction of the output of these sectors is exported.[28] But their weight in the GDP is too small to make a major contribution to growth of the economy.[29] As a result, beginning in 1981, and accelerating with the 1986 devaluation, growth and employment depended primarily on manufacturing, construction and mining [including oil], and the trade, transport and services they generated. Manufacturing, mining, construction directly accounted for close to 50% of growth from 1986-97. If their indirect effects via trade, services and utilities are added they roughly accounted for about 70% of growth.[30] From 1981 to 1986 agriculture's role was still significant, but after the reforms of 1986/7 stimulated industrial growth, agriculture's direct contribution to growth was less than 10%, as its growth rate slowed to less than 3%.

If the institutional and technical obstacles to more rapid growth spelled out above can be overcome, agriculture may again contribute more to growth. But for the last 15 years and in the immediate future manufacturing and mining will largely determine how rapidly Indonesia grows, very much as agriculture was the "leading sector" earlier. A major element in the 30-year success story of Indonesian development was the recognition that initial gains could be made quickly and cheaply in agriculture, and especially in rice, but that later development depended heavily on policies to spur manufactured exports that relied heavily on Indonesia's abundant factor, unskilled labor.

The Reforms of 1986-1987 and the Growth of Manufactured Exports

The reform package
The last major reform package of the Soeharto years is the most comprehensive and its impact on the poor is the best documented. But the story is pretty consistent for all 3 of the post-1970 devaluations: each devaluation spurred non-oil/gas exports and helped increase the rate of growth, until inflation eroded its benefits. If oil export revenue was high or growing then the economy and its managers took that impact in stride. But if export revenue from both oil/gas and non-oil/gas declined then the economic managers responded with a further devaluation and with other reforms.

After increasing dramatically in the early 1980s, oil revenue fell by more than half late in the decade[31]. The World Bank estimated that Indonesia lost the equivalent of 9% of its GNP as a result of external shocks, mostly a deterioration of its Terms of Trade. Such a loss could have been serious for the economy. Instead, good economic management turned the potential disaster into an opportunity for reform and more rapid growth. The centerpiece was another devaluation of 45% in 1986/7. As a result of this and smaller, earlier devaluations the Rupiah had fallen to less than 40% of its 1981 value[32] by 1987. This massive devaluation was accompanied and followed by the most extensive reform package since the first reform push of the late 1960s:[33]

- There was a substantial reduction in regulations restricting exports and those raising the cost of shipping and customs. The functioning of the banking system was improved by lifting interest rate and credit ceilings and other measures.

- A substantial reduction in the cost of imported inputs, especially those going into manufactured exports, via an across-the-board cut in tariffs and in import restrictions. In addition exporters were given freer access to imported inputs[34]. Indonesia operated an effective system to refund import duties and taxes to exporters that even provided a modest, albeit hidden, subsidy;

- Restrictions on investment, especially foreign investors, were drastically pruned. As a result foreign direct investment outside the oil sector more than doubled from less than $200 million to $550 million, much of it in manufacturing and especially manufactured exports.

Macro-economic stabilization underpinned the reforms. A technocratic team was authorized to cut a number of high-profile projects that were capital- and import-intensive, had political backing and were widely seen as generating particularly large rental/ corruption income. Current expenditures were also reined in. As a result inflation did not quickly erode the gains from devaluation.

The response of manufactured exports

The most dramatic impact of these measures was on manufactured exports, which benefited especially from the reduced costs of imported inputs, from foreign investment and the devaluation. They had been at $300 million at the beginning of the decade, an incredibly small sum for a country of the size of Indonesia, reached $1.6 billion before the 1986/7 devaluation and nearly tripled after the reforms. By 1997 manufactured exports were about $30 billion[35]. Other labor- and resource-intensive exports also responded to the incentives provided by the reforms: total non-oil/gas exports increased from $4 million before the first devaluation to nearly $12 billion just after the second devaluation and other reforms. The major lesson of the reforms was that entrepreneurs and investors will respond dramatically to a dramatic change in incentives even if their response to smaller changes may be slow and grudging. Indonesia in the middle 1980s changed from a risky and quite unattractive place to do business to one of the favorite poor and middle income destinations for international investors, including Indonesia's own ethnic Chinese families. These families often had members and interests in a variety of countries in Asia and invested in those where risk-

Table 4: Exports, Devaluation and Inflation

	Exports		Devaluation	Inflation	GDP Growth
	Oil & Gas	Non-oil		Average	Average
	in $ billion			Annual Rate	Annual Rate
Pre-devaluation	0.2	0.4		374%	1.8%
1968	0.3	0.4	31%	85%	10.9%
Post/Pre-devaluation	0.4	0.7		10%	7.2%
1971	0.5	0.8	27%	2%	7.0%
Post-devaluation	1.3	1.2		37%	7.6%
Pre-devaluation	6.7	3.6		13%	6.9%
1978	7.4	4.2	50%	7%	6.8%
Post-devaluation	13.3	6.7		19%	8.4%
Pre-devaluation	19.6	3.9		9%	6.7%
1983	16.1	5.0	38%	11%	4.2%
Post/Pre-devaluation	14.4	5.9		7%	4.7%
1986/87	8.4	6.5	45%	9%	5.4%
Post devaluation	8.2	11.5		6%	6.9%
Pre-devaluation	6.9	44.6		14%	6.9%
1998	7.4	43.0	337%	78%	-13.1%
Post-devaluation	12.7	50.3		6%	3.0%

NOTES: "Pre-devaluation" and "Post-devaluation" for exports is usually for a single year, if it is reasonably typical for that period, or the average for 2 years. Where a single year is used it is sometimes not the year immediately following the devaluation, but the subsequent year. If the devaluation took place late in the year its full effect is more likely to be recorded in that year. For inflation normally a 2-year average rate is shown. For the GDP growth rate a 3-year annual average is usually shown, since the effect of the devaluation and of other reforms is likely to be evidenced only with some delay and annual data are strongly affected by the weather and other exogenous variables.

adjusted returns seemed highest. The devaluations and reforms of 1983 to 1987 launched Indonesia on the path of a becoming a major exporter of manufactured goods and a country whose leading sector changed from agriculture to manufacturing.* Non-oil/gas exports by 1997 had nearly quadrupled the after-devaluation/reform amount. Compared to the $4 billion exported at the beginning of the 1980s the $44 billion of non-oil/gas exports reached in 1997

* Table 3 and earlier discussion indicates that from 1986-97 manufacturing alone contributed 1/3 to growth. Together with its indirect impact on trade, services and utilities its impact accounted for nearly half of growth. Construction and mining account for another 15%. Agriculture's contribution in that decade was 7%.

were an 11-fold increase. The growth rate of the economy also responded, running quite consistently at 7.5% from 1989 through 1996.

Some rough numbers will clarify the role of manufactured exports. Between 1983 and 1997 the value of output in manufacturing increased by the equivalent of $45 billion.[36] As noted above, non-oil/gas exports increased by $40 billion and manufactured exports alone by nearly $30 billion. Clearly exports were the driving force in the increase in industrial production, which in turn directly accounts for roughly one third of the increase in GDP during this period.

A partially compensated devaluation—making devaluation effective

As remarkable as the achievement on the growth side was the effectiveness in controlling inflation. The Rupiah price of imports and exports more than doubled as the result of the two devaluations but the annual rate of inflation from 1984 to 1990 was only 7%, actually below what it had been before 1983. Good monetary and fiscal management was part of the explanation. But another major element was a policy of partially compensated devaluation,[37] which kept the domestic prices of many tradables from fully reflecting the effects of devaluation. The key was the price of rice and other staples. The government's rice stabilization agency, BULOG, handled imports and exports of rice and imports of wheat and largely decoupled the domestic and international price. Imports could be effectively taxed and exports of rice could be subsidized by the purchase and sales prices that BULOG set. Preventing the full effect of the devaluation being quickly felt in the price of staples is the essence of a compensated devaluation. As a result of BULOG intervention the 45% devaluation in 1986/7 was followed by only a 27% increase in the rice price from 1987 to 1988 and by a less than 10% increase in the next two years[38]. The cost of stabilizing staple foods was low. By the mid-1980s the country was self-sufficient in rice and exported small amounts, almost matching the 3-5% of consumption that was imported in the form of wheat. The amount traded internationally was small and wheat imports were largely funded by aid. The rice price was allowed to rise, in part to limit the cost to the government, but more gradually than the devaluation would have dictated.[39] By subsidizing the marginal amounts of rice traded internationally, BULOG could keep the domestic price from reflecting the devaluation.

On the import side a reduction in tariffs contained the domestic price increase as a result of devaluation. Government also fixed the price of petroleum products. The price of kerosene was subsidized to avoid the full impact of devaluation and did not change at all from 1985 to 1988, despite the 45% devaluation in 1986/7[40] [Table 4 summarizes the data].

In short, the technocratic team did a good job of adjusting to adverse external conditions with a flexible exchange rate policy, including substantial devaluations when needed, and other reforms which enabled Indonesia in the 1980s to make a successful transition from a highly protected economy with rice agriculture the leading sector, to one which relied more on rapid growth of exports of plantation crops and manufactures.

The Increasing Problem of Governance and Corruption

Effective economic management was clearly important to rapid growth. The authoritarian government proved superb in carrying out the early stages of reform. Once the President decided to back the reforms and the economic team which proposed them, reforms could be implemented quickly[41]. Initially the military leadership, like others in Asia, continued to live rather austerely and the governments pursued policies that were in the best interests of the country. Both austerity and pursuit of public interest tended to erode over time in Indonesia, as in China, Pakistan, Bangladesh and the Philippines[42].

Taking account of limited span of control and executing capacity
A major factor in reducing corruption was the recognition by the technocrats in the '60s that government had limited capacity to execute programs, to manage projects and to carry out policies that ran counter to self-interest. It was therefore essential to limit the intervention of government in the economy to what the bureaucracy could manage. When substantial parts of the judiciary and the civil service are corrupt controls are unlikely to achieve their aims, but it was certain they would generate ill-gotten gains for the unscrupulous. The technocrats decided to rely on the market to guide private decisions within a broad framework of macro-economic management, rather than intervening extensively in the economy. They worked those levers that were reasonably firmly in their hands, such as the exchange rate and, for a long time the price of rice. They reduced the use of tools that required an honest and effective bureaucracy and judiciary if they were to work. The abolition of import and export controls and the unification of the official and free market exchange rates largely ended rents or bribes associated with trade controls, the most lucrative source.

Raising government pay
A corollary was the need to raise the pay of the civil service so that officials and their families could survive without corruption. In the early/mid-'60s the free rice for civil servants and their salary was not sufficient to feed a family. A few remained honest by supplementing their income, often from a second or third job[43]. To survive a large proportion took bribes. The government reduced the temptation to take bribes by gradually raising basic salaries and by providing special allowances for scarce specialists -doctors, engineers, accountants and even economists- and for tax collectors and others subject to the biggest temptations. The impact on corruption is not established, but it was easier to justify cracking down on corruption when honesty no longer implied starvation.

Opening activities to private competition
A third important element in reducing corruption and waste in government was *opening activities to private competition* to force down costs, including the cost of corruption, and improve efficiency. Banking and fertilizer distribution were examples.

Success eroded reforms; economic problems speeded it
After a decade of success, complacency and self-interest gradually eroded the effectiveness of the reforms beginning in the late '70s. This is not unusual in authoritarian governments, not subject to the healthy pressures provided by a critical press and opposition party and not subject to the competitive pressures introduced by having to win the next election. Inevitably

power began to corrupt, family and friends made increasing demands and austerity habits began to break down. In addition political considerations began to loom larger, especially after the riots of January 1974. Politics was seen primarily in terms of the interaction among elite groups, the need to maintain support from the military, business and, to a lesser extent, the donor community and the senior civil service. Reforms that affected the privileged, as most of them did, were often delayed and a few that had been carried out earlier were reversed. With the economy continuing to grow quite rapidly in the early 1980s when oil prices were rising, the President saw less need to implement the advice of the economic team. With rapid growth of the economy foreign aid became less of a factor and donors' pressures could more readily be ignored. The position of the economic advisors was weakened and, over time they lost control of key ministries.[44] During this and later boom periods cronyism became more pronounced, as did attempts to intervene in the economy and to ignore economic incentives. However when there were economic problems the technocrats' advice was again accepted and reforms moved forward.

With rapid growth after 1986, the increased importance of politics, the growing demands of the First Family and its friends, and the absence of any cleansing changes of regime, Indonesia lagged behind its competitors in Asia in dealing with corruption. But even in 1995/96 all 4 of Asia's large countries had a ranking of corruption perception close enough to be well within the margin of error[45]. By 2001 to 2003 only Bangladesh and Indonesia shared the dubious honor of being listed among the most corrupt. China, which in 1995/96 had shared with Indonesia a very low ranking, now was 66th in the world, while Indonesia was 122nd, both out of 133. Other competitors were also ranked substantially higher, most between 59th and 77th out of 133 countries ranked [See Table 5].

Table 5: Ranking of Corruption Perception for Asian Countries Competing with Indonesia [rank of the country in total number of countries ranked]

1995				36/41	35/41	34/41		23/41
1996						37/54		26/54
1997				40/52	45/52	39/52		32/52
1998			71/85	55/85	66/85	61/85	52/85	29/85
1999				54/99	72/99	68/99	58/99	32/99
2000				69/90	69/90	60/90	63/90	36/90
2001			79/91	65/91	71/91	61/91	57/91	36/91
2002			77/102	77/102	71/102	64/102	59/102	33/102
2003		122/133	92/133**	92/133**	83/133	70/133	66/133	37/133

Highlight indicates countries close to Indonesia in corruption perception.
*Unreliable score: surveys had a greater range than for any other country
**Tied
Source: Transparency International.

Despite progress during the democratization and reform movements of 1998-99 Indonesia retains, by all accounts, a highly corrupt reputation for several reasons:

- The leadership, and the elite around it, never made ending corruption a major objective. After years of operating under a corrupt, patronage-ridden system a shift requires a strong push from the leadership. But many proved unwilling either to give up the power and income which control of government resources conferred or to accept the costs of imposing the taxes needed to provide resources needed to make off-book activities unnecessary. This problem was aggravated by: several factors:
  - The Presidents' families were never above suspicion; none established an unimpeachable reputation for honesty. As children grew up and wanted a share in the spoils this became an increasing problem.
  - The Army is large and costly. But it was financed only in part by Government. For various reasons the Government was not willing to sharply reduce the cost of the military. They therefore had to engage in business activities to finance even some basic costs. This powerful force opposed reforms that would cut its rents.
  - The system remained authoritarian for a long time. The absence of effective media to provide information on corruption abetted its continued existence.

- During periods of high oil prices and rapid growth there was little pressure to husband resources. There was an increase in controls and the rents they breed, and corruption seemed quite tolerable.

- The impetus to reform brought on by the Crisis and the ouster of President Soeharto quickly ran out of steam. A proliferation of parties eagerly sought the patronage and resources needed to mount an effective campaign. New local elites in the Districts gained power and sought the wealth and the patronage needed to remain in office and to offset the costs they had incurred in reaching it. For these and other reasons Indonesia has not escaped the reputation and burden of being among the most corrupt countries in Asia. Its poor rating for corruption is a significant factor in discouraging investment and therefore slowing the rate of growth. It also discourages long-term trade deals, especially for the supply of natural gas and other goods where reliability of supply is important.

The Contribution of Declining Population Growth

Indonesia's population growth rate was typical of Asia in the 1950s and early 1960s: somewhat higher than in the very poor countries of South Asia, and somewhat lower than in Southeast and East Asia. The labor force grew more slowly than normal in the late 1960s/early 1970s as 2-4% were killed, imprisoned, displaced and in hiding.[46] Hunger may also have increased the death rate. Improvements in public health were a major factor in increasing population growth in the 1970s. At the beginning of that decade Indonesia launched one of the most effective family planning programs in the Muslim world. By the 1980s population growth was down from 2.4% to 2.0% and by the late 1990s to 1.5% [from BPS].

Success was the result, first, of the ready availability of condoms and other needed supplies, distributed through both commercial and non-profit channels; second, a low price for some supplies, thanks to subsidies and domestic production; third, an effective public relations

campaign, waged largely by the private, but semi-official, family planning organization. Within 2 decades lower population growth had major benefits: because Indonesia is a labor abundant economy, where a more rapid growth of the labor force by itself contributes little in terms of increased output[47] [the marginal product of labor is close to zero] the lower population growth with [nearly] the same growth in GDP means that per capita income growth is higher by something like a percentage point as a result of lower population growth. Additional, related benefits include a substantially lower cost of providing infrastructure, education and health services and greatly reduced investment needed to provide productive employment to entrants into the labor force.

The Poor and Rapid Growth—1967 to 1997

Why Do Different Analysts Reach Different Conclusions on Poverty: The Importance of the Deflator and the Measure of Poverty

That poverty declined dramatically during the 30 years of Indonesia's rapid growth is well established. Tables A.1 and 6-8 bring together most of the available measures of poverty and inequality. The data for the first decade are somewhat less reliable but the major conclusion that rapid growth benefited the poor is not in doubt. A general caveat is in order however: no good CPI [Consumer Price Index] exists for the entire period even for the population as a whole and no deflator at all exists for the poor. All existing deflators or price indexes are poor at reflecting the consumption of the poor. Yet which deflator is used makes a big difference to the conclusions one draws, especially for the period 1997-2003 when there were massive changes in food prices and especially in rice prices. Indeed a major reason why different analysts reach quite different conclusions with respect to the impact of the Crisis on the poor is their use of different deflators. Appendix B discusses the different deflators and their differential impact on measures of poverty.

The second difference among analysts which makes for differences in results are the data they use to track poverty. The most widely used measure of poverty, the percent below the poverty line, or the poverty incidence, is especially liable to change depending on methodology. A large proportion of the poor are clustered around the poverty line. Therefore a minor change in what is included in the consumption basket in defining who is poor or in the price index used can cause huge changes in the poverty incidence and in conclusions drawn from it. That measure of poverty is therefore not a robust one[*]. While it is reported and analyzed, this paper relies more on changes in the expenditures of the poorest 40% of the population and in the real wages of unskilled workers as a proxy for the income of the poor. The justification for doing so is discussed further in Appendix B.

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[*] A careful analysis of SUSENAS data by Suryahardi, Sunarto, Pritchett has poverty at 19% or 23% in 1996 and increasing to 27% in 1999. The two different methods yield a 42% increase in one case and a 15% increase in poverty in the other—a huge difference. By 2002 one method has poverty at 14% the other at 13%, both vastly improved over 1996, a dubious conclusion. The authors conclude that poverty reached one third of the population by the depth of the Crisis—far greater than any other analyst—and improved to 10% by 2001, a number hard to reconcile with such data as employment and GDP per capita.

Poverty Incidence, Inequality and the Share of the Poor

Over 27 years [1970 to 1997] the incidence of poverty declined from about 63% of the population to 15% [Table 6]. As mentioned, these data have problems but the overall trend is not in question. Rapid growth over these near-30 years was accompanied by dramatic declines in poverty. Few, if any, other countries have achieved comparable success in poverty reduction.

Income distribution did not change much over this period. Indeed the Gini coefficient for the country as a whole was about the same in 1964/5, 1970, 1976 and 1996 [Table A.1]. However, there was an increase in equality from around 0.35 in the '60s and '70s to 0.32 in 1987 and 1990.[48] There was a more dramatic improvement in the rural areas, from 0.31-0.36 during 1965-80 to a more equal 0.24-0.27 after 1987. The minor changes in national income distribution while rural distribution improved substantially are explained by massive migration from more egalitarian rural areas to less egalitarian urban areas.[*]

Table 6: Poverty Incidence and the Real Income of the Poor, 1970-2002

Year	% Below Poverty Line*			Real mean per cap. monthly expenditures of poorest 40% (1996 Rp.000)							Real Daily Agricultural Wage (1996 Rp.000)		
	National.	Urban	Rural	Natnl.	Urban	Rural	Natnl.	Urban	Rural	Rural deflated by Rural CPI	deflated by Urban CPI	deflated By Food from Urban CPI	deflated by Rural CPI
				deflated by Urban CPI			deflated by Food from Urban CPI						
1970	58.2	75.3	54.3										
1975													
1976	62.9	54.5	64.9	12.4	19	11.9	13.2	20.3	12.7		1.08	1.14	
1977											1.06	1.12	
1978	51.7	43.3	53.7	12.2	19.3	13.3	13.1	20.9	14.4		1.08	1.17	
1979											1.01	1.08	
1980	44.6	40.8	45.7	13.9	19.4	15.1	14.9	20.8	16.2		1.81	1.94	
1981	41.9	39.4	42.6	18.1	27.9	20.2	19.2	29.7	21.4		2.07	2.20	
1982											2.09	2.27	
1983											2.07	2.28	
1984	33.7	32.5	34.1	20	31.1	21.6	22.6	35.1	24.3		2.15	2.42	
1985											2.16	2.49	
1986											2.19	2.41	
1987	27	28.3	26.4	22.4	34.8	26	24.1	37.4	28		2.25	2.42	
1988											1.98	2.08	
1989											2.03	2.12	
1990	23.2	23.5	23	25.6	34.2	29.2	27.5	36.6	31.3		2.01	2.15	
1991											2.07	2.22	
1992				26.3	38.3	25.1	27.8	40.4	26.5		2.22	2.34	
1993	21.1	18.9	22.2	27.8	41.2	26.3	30.6	45.3	29		2.29	2.53	
1994				28.9	40.9	26.5	30.3	42.9	27.8		2.39	2.52	
1995				32.5	44.2	29.1	32.5	44.1	29		2.56	2.57	
1996	17.6	13.6	19.8	35.2	47.6	30.4	35.3	47.6	30.5	22.5	2.65	2.65	1.96
1997	14.7	12.1	16.3	33.9	45.2	29.5	31.5	41.9	27.4	22.2	2.62	2.43	1.97
1998	19.9	16.2	22	23.3	31.1	20.2	17.5	23.4	15.3	14.8	1.91	1.44	1.40
1999	23.5	19.4	26.1	36.8	48	32.5	29.8	38.9	26.4	19.2	2.40	1.95	1.42
2000	19.1	14.6	22.4	35.4	45	31.2	30.2	38.4	26.6	20.1	2.47	2.11	1.59
2001	18.3	9.8	24.7	33.8	40.4	29	29	34.6	24.9	18.2	2.49	2.14	1.56
2002	17.9	14.3	20.5	37.8	46.1	32.2	32.6	39.8	27.8	18.4	2.70	2.33	1.54
2003											2.92	2.80	1.56

*From 1970 to 1993 figures are adjusted to reflect new (1998) BPS poverty line. Adjusted separately for rural and urban on a proportional basis in 1996 when data are available on both the old and the new base. National is calculated using imputed rural and urban population. The new rate is roughly 50% higher than the old rate. The data in this table reflect revisions made by BPS in data for 2001 & 2002 in December 2003. Estimates that use a different weighting scheme will have somewhat different results for National poverty incidence [e.g. weighting by Provincial populations which was done by the sources for Table 11 B.].

[*] The urban population increased from 15% of the total in 1961 to 41% in 2001 [BPS 1997 and 2002].

Changes in the share of the poor in National Income naturally paralleled the changes in the Gini. Over the period as a whole the share of the poorest 40% in National Income did not change much or consistently, but remained around 20% [Table A.1]. The urban Gini shows greater inequality and the share of national income received by the urban poorest 40% is often below 20% while it is almost always above 20% for the rural poor. That is not unusual: it is quite typical for urban incomes to be less equally distributed than rural incomes. The share in income of the poorest 40% of the population increased from less than 19% in the late '70s to an average of 21% a decade later, over the same period that the Gini indicated increased equality. The increase was especially marked in the rural areas, where it amounted to 15-25% in terms of their share, as the Gini also showed a sharp decrease.[49] After 1990 the share of the poorest 40% and the Gini coefficient indicate some worsening of income distribution. But the changes are small and 1999 actually has the lowest Gini and the highest share for the poor in the whole period for which we have data. Unfortunately no data on income distribution are available for the years of the Monetary Crisis [1997/8] so one has to infer what happened from changes in income. Since the expenditures of the poor and their real wages declined by more than average per capita income during the Crisis it appears that income distribution worsened and then improved in the recovery from Crisis, both substantially.

The Increase in the Absolute Income of the Poor

The impact of rapid growth on the poor was dramatic. The real expenditures of the poorest 40% roughly tripled in the 26 years from 1976 to 2002; 2.7-fold for the rural poor and 2.4-fold for the urban poor [Table 6]. The increase in the average national expenditures of the poor was greater than it was for either urban or rural poor because the average income in the urban areas was 60% higher and an increasing proportion of the population and of the poor lived in urban areas [see footnote on previous page]. Rural-urban migration made a major contribution to the average expenditure of the poor in the nation as a whole as the average income of the migrants increased.

Since prices of food, especially important in the expenditures of the poor and of the rural population, increased more rapidly then the general CPI, there is a smaller increase in the expenditures of the poor if the data are deflated by the food part of the urban CPI. Still for the poor of the whole country real expenditures increased 2.5 fold; for the rural poor the increase was 2.2 times and for the urban poor they doubled. Agricultural wages track the expenditures of the rural poor very closely, increasing 2.5 times. Since the expenditures of the rural poor increased more than for the urban poor, the gap between them shrank, but remained considerable. Whatever the deflator the conclusion is clear: a more than doubling in the income of the poor.

Unfortunately these relatively robust series of income and expenditures begin only in 1976. But the economy as a whole grew rapidly from 1967 to 1976. From Gini and wage data one can infer that income of the poor increased at least commensurately. The per capita annual rate of growth was over 5%, so if income distribution stayed virtually unchanged then the income/expenditures of the poor would have increased by roughly 50% over the 9 years from the beginning of the reform period to 1976. Combining this increase with the 2.5-fold

increase after 1976 implies *a near quadrupling of the income/expenditures of the poor over the 35 years from 1967 to 2002*, despite the setback of the Crisis. *A slightly more egalitarian income distribution*, especially in the rural areas, *contributed a small part of this gain, but the great bulk of it was the result of a high rate of growth that benefited the poor at least proportionately*.

The Relationship Between the Rate of Growth and the Increase in Income of The Poor

Quite clearly the poor benefited from higher rates of growth and suffered during periods of stagnation and decline. When per capita income was stagnant or falling slowly from about 1953 to 1967 the real wages of plantation workers were cut roughly in half - a heavy blow. Income distribution most probably became significantly worse: the decline in the income of the poor, as proxied by plantation wages, declined 5-10 times as much as the decline in the average income[50]. The same relationships held during the Crisis: per-capita income/expenditures declined about 6% a year while the income/ expenditures of the poor declined by something of the order of 16-26% a year, depending primarily on the deflator used [Table 7].[51]

Conversely when per capita GDP rose rapidly, the poor in most instances benefited more than proportionately. During the initial period of rapid growth, from 1967 to 1971 while the annual per capita growth rate was of the order of 6% the plantation wages rose four times as fast. Similarly during the second growth spurt from 1976-81, when per capita GDP growth again reached nearly 6% per annum, the expenditures of the poorest 40% rose faster, at nearly 8% a year and the wages of agricultural workers increased even faster at 14% a year. And when growth slowed subsequently to about 2% per capita, expenditures of the poorest 40% also slowed to less than 4% and the wages of agricultural workers to less than 2% [Table 7; Appendix B for justification of using real wages of agricultural labor as a proxy for rural incomes].

When one looks at all of the 20 years of rapid growth [1976-96] there is an amazingly close correspondence between the per capita rate of growth of about 3%, and the increase in the expenditure of the poor and in the real wages of agricultural workers also at about 3% per year, reflecting constant income shares and no major change in income distribution. Over this long period the poor did not benefit more than proportionately from rapid growth, primarily because there were 2 sub-periods when they benefited little. Analyzing these sub-periods sheds interesting light on the relationship between the growth rate of the economy and poverty.

Table 7: Growth and Changes in Poverty Compared
(Annual rates of change)

	GDP per capita annual growth rate over period	Annual rate of change in real expenditures of poorest 40% deflated by					Annl. rate of change in real plantation wages	Annl. rate of change in real agric wage deflated by	
		Genl. urban CPI		Food urban CPI		FTT/NTP		Food	FTT/NTP
		National	Rural	National	Rural	Rural CPI		Urban CPI	Rural CPI
av.53/54-av.63/66/67*	-0.2 to +0.4						-9.6		
1960-1967*	-1.5 to –1.9						-7.0		
1967-1971	5.9						24.7		
1971-1976	4.4						-0.2		
1976-1981	5.7	7.7	11.1	7.7	11.1			14.0	
1981-1987	2.4	3.6	4.4	3.8	4.6			1.6	
1987-1996	5.4	5.2	1.7	4.3	0.9			1.0	
1996/97-98**	-6.1	-18.8	-18.4	-29.5	-29.2	-18.8		-26.4	-15.6
1998-2002**	1.7	12.9	12.3	16.8	16.2	5.5		12.9	2.5
1976-1996	***4.55***	***5.34***	***4.79***	***5.03***	***4.48***			***4.3***	

NOTES: The early data have a particularly large margin of error and annual wage data fluctuate substantially. Therefore averages have been used for the earliest wage data. In calculating annual rates of change the period which compares an average of 53/54 with an average of 63/66 & 67 can be considered as 11 to 13 years long. The results in the Table are for a period of 12 years. At its extreme the decline in real wages ranges from - 8.9% a year [at 11 years] to -10.5% a year [at 13 years]. Therefore, which one is used does not affect the conclusions. For the early years the only indirect measure of the income of the poor are the wages in the plantation sector. Beginning in 1976 data are available for wages in rice agriculture for Java, and in 1986 for other Provinces. See Papanek 1980 & 1986; Papanek, Molyneaux, Choesni and Appendix B for justification for using real wages of unskilled workers as an proxy for changes in the income of the poor.

There are no good price deflators for the real income or wages of the poor [see Appendix B]. And there is only one deflator that covers the early years: the CPI which is for urban areas and the lower middle class. Two or three alternative deflators have therefore been used: the general index from the [urban] CPI; the food price index from the [urban] CPI, and the Rural CPI from the Farmers' Terms of Trade [FTT, NTP in Indonesian]. See Appendix B. for the conclusion that the most reliable is the Rural CPI.

* No reliable official data exist for GDP in the 1950s. GDP growth rates for 1953-67 are calculated using data from van der Eng. One estimate values oil at the official exchange rate, the other values it at shadow prices.
**Calculated from highest and lowest points of several months average. Wages hit a high in 1996, while the GDP high was actually in 1997; both were lowest in 1998.
Sources: Plantation worker real wages from Papanek 1980, deflated by urban food index from Papanek and Dowsett.
GDP: 1953/4-1967 calculated from van der Eng. 1967-02 calculated by Jammal from BPS.
Income of the poorest 40% calculated from Susenas; see Papanek Molyneaux, Choesni; wages from BPS:2003a.

In 1971-76 growth slowed, but was still at 4.5% per capita, high by Asian standards. The only measure of the income of the poor, the wages of plantation workers, was stagnant. This is consistent with the increase in poverty incidence between 1970 and '76, but inconsistent with an essentially unchanged Gini coefficient.* The stagnation of wages and increase in poverty have a logical explanation. First, there was a burst of inflation in the early 1970s as a result of problems with the supply of rice and of the oil boom[52]. Second, growth during this period was not very labor intensive, in contrast to the earlier post-reform years. The oil sector, and mining more generally, made a major contribution to growth during the oil boom and so did timber. Neither offered much employment to unskilled workers. Growth in manufacturing included the substitution of large capital-intensive automated spinning and weaving for more labor-intensive small weaving firms. Construction had earlier been highly labor-intensive, since the country had little earth-moving machinery. By the 1970s a great deal of machinery had been imported and that sector too became more capital-intensive. Finally, in Jakarta, the biggest city by far, steps to "clean up" and "modernize" forced out substantial numbers from two of the most labor-intensive activities—bicycle rickshaw driving and sidewalk peddling.[53]

The explanation for stagnant wages for the unskilled in the early '70s then lies in acceleration of inflation and a shift to more capital-intensive growth. In 1987-1996 growth in income/ expenditures of the poor was again slower than the rate of growth of per capita income, but the discrepancy was small. Per capita income growth was 5.4%; expenditures of the poorest 40% rose by about 4% a year and the real wage of agricultural workers by only 1%. The resulting deterioration in equality is reflected in the deterioration of the Gini and the decline in the share of National Income received by the urban poor. Again accelerating inflation was partly to blame: annual wage data show that most of the deterioration in the position of the poor occurred from 1986 to 1989, when inflation accelerated.[54] And slower growth in demand for unskilled labor again was a factor. Agriculture's contribution to growth, which had exceeded 20% from 1967 to 1986 had fallen to 8% in the 1986-1997 decade [Table 3] and the decline had been especially pronounced in the food crop, primarily rice, sub-sector, the most labor intensive large part of agriculture [from 3-5% to 1.7%]. When agriculture grew more rapidly earlier, and was more important in GDP, its growth created significant demand for labor. But by 1987 manufacturing and construction played the lead role and neither was as labor-intensive. It took a high rate of growth over several years in both sectors to substitute for agricultural growth in creating demand for unskilled labor, because of the size and labor-intensity of the agriculture sector, and especially rice production.

One other factor that affected the demand for unskilled labor during this period was the size of the labor-intensive public works program [INPRES- see below]. Its influence went beyond the considerable number of actual jobs it created. By providing assured employment during the agricultural off-season in each region and during periods of drought or flood for those most desperate for any income it provided a floor, albeit a low one, for unskilled workers and maintained real wages. The expenditures for INPRES were cut by more than a third in real terms between 1985/6 and 1987/8 in order to adjust to the collapse of the second oil boom in

* However, it is well known that the Gini coefficient is not very sensitive to changes in the income distribution among the poorer 40% or so. Since plantation workers fall within that group the unchanged Gini is not too surprising.

1986. In East and Central Java a 35% cut in INPRES expenditures would result in a 7% decline in real wages, if one takes at face value the results of regressions in Table A.2. When the impact on wages became clear the nominal expenditures on INPRES were near-doubled in 1990/91, then almost doubled yet again in 1992/3. This contributed to higher real wages and expenditures for the poorest 40% in those years.

Summing up

Over the longer-term income distribution did not change much during the 30 years of rapid, market-driven growth from 1965 to 1997. If anything, it became slightly more egalitarian. Therefore the poor benefited roughly proportionately to other income groups from growth. Rapid growth therefore resulted in a dramatic four-fold increase in the income and expenditures of the poor and a decline in the proportion of the poor from over 60% of the population to about 15-18%. In general, the poor benefited more than proportionately from high rates of growth –above 5% per capita- and lost more than proportionately during periods of stagnation or decline in per capita incomes. In the short-term it was changes in the rate of inflation that substantially drove real wages and the income of the poor. When inflation accelerated their income lagged. Over the longer-term the income of the poor was largely driven by demand for their labor. If growth was capital-intensive, creating few jobs for unskilled workers the income of the poor rose more slowly than per capita income. Thus what mattered was not just the rate of growth, but its labor-intensity. *Assuring that growth was pro-poor therefore required policies that kept inflation in check, promoted rapid growth and assured that the growth was labor-intensive.*

CHAPTER THREE
THE CRISIS OF 1997-98: ITS CAUSES AND CONSEQUENCES

The Monetary Crisis was a catastrophe for the Indonesian economy and especially for its poor. Its causes and consequences have been extensively examined. Contributing to that discussion is far beyond the scope of this paper. But a quick analysis of major issues is important to see what lessons can be drawn for pro-poor growth.

From Rapid Growth to Precipitous Decline – Major Causal Factors

The Role of Confidence

Rapid growth, except in years of oil boom, was substantially affected by capital flows. In the 1970s and 1980s these were mostly official flows [aid], ranging from 3.5% to 5% of GDP, accounting for 1/3-1/2 of gross fixed capital formation [investment]. But in the 1990s private flows took over, a large proportion in the form of short-term loans or other potentially volatile flows. Just before the Crisis, officially recorded private flows exceeded 5% of GDP or $10 billion annually. When lenders and investors lost confidence in the economy as a result of the crisis atmosphere that spread from Thailand, the flows turned negative: recorded outflows reached $14 billion in 1998, a net change of some $24 billion. Informed observers estimate the turnaround to be even larger, probably above $30 billion when unrecorded flows

are included. Even a $24 billion net change represents 20% of National Income in 1998. Such a reduction in resources available to an economy by itself is cause enough for a crisis [Table A.4].

Structural Factors—The Political Economy of the Crisis

The magnitude of the resource loss and Crisis was affected by some factors special to Indonesia:

- As is well known a disproportionate share of the economy is in the hands of Indonesians of Chinese ethnic origin. This minority community is often scapegoated. It is therefore especially vulnerable to panic. Combined with strong ties to family members in other countries they are more likely than other groups to move capital in and out as the political and economic situation changes.

- A handful of generals and other government supporters tried to deflect popular anger from the Government by doing precisely what the Chinese community feared: blaming them for the incipient crisis. This naturally proved a self-fulfilling prophecy: each attack aggravated capital flight. An orgy of attacks, looting and raping in 1998 led to accelerated capital and personnel flight.

- These riots, the overthrow of the Soeharto government after 30 years of rule, the rise of a militant group of unions and increasing problems for foreign investors[55] speeded the flight of foreign capital, and especially the termination of loan roll-overs.

- The risk and uncertainty attending decentralization affected investors' sentiment.

- The private sector had borrowed massively abroad, because interest rates were lower. Most loans were short-term, with the proceeds often invested for the long-term in factories and other fixed capital difficult to make liquid, especially during a crisis of confidence. The risk had been perceived as small because devaluation of the exchange rate was kept at or below the rate of inflation. But once the crisis of confidence hit, creditors naturally refused to roll over these short-term loans as they became due. Massive default was inevitable.

- All countries in the region [and many outside] found that when growth slowed a high proportion of the loans turned non-performing. Indonesian banks were among the worst in this respect. Private banks had engaged in massive self-dealing, lending to their owners or the owners' friends for dubious projects, while public banks had a high proportion of political loans to the First Family, their friends and clients. As banks became illiquid government pumped money into them on a massive scale. But the banks' owners were well aware of their vulnerable position and widely used the additional resources for capital flight. Corruption had led to dubious projects, but the cost became evident only when the economy turned from rapid growth to decline.

- A drought beginning in 1996/7 led to loss of income and employment in agriculture and required substantial imports of rice.

A vicious cycle thus aggravated the problems caused by the loss of confidence. The country was like an insecure bicyclist—as long as he goes fast enough he does not fall. When the momentum slows a fall is inevitable. Loss of confidence and the resulting capital flight meant a rapid depreciation of the currency—it went from Rp 2,500 to the dollar in August of 1997 to Rp 8,000 and then 12,000 and briefly reached 17,000 in early 1998 The price of rice and other goods traded on the world market shot up, credit stopped, imports dried up, the whole economy slowed and the construction sector collapsed. Half a million construction workers lost their jobs as did an unknown number of workers in industry. New entrants into the labor force could not find jobs. As food prices doubled the real wages in agriculture and informal urban sector occupations fell some 40% from their previous high point. There were no safety net programs that responded automatically and quickly. Nor did the government effectively communicate that it was doing what it could to help those whose current consumption had fallen by a quarter or a third and whose future was bleak. Desperate people rioted, attacked the wealthy and the Chinese ethnic community and minority ethnic and migrant communities more generally. Economic despair fueled political insecurity which worsened capital and human flight. In turn it worsened the economic situation in a rapid downward spiral.

The Disproportionate Impact of the Crisis on the Poor

While per capita income declined by some 16%, the income or expenditures of the poor declined by 20-30%, depending on the measure and deflator used.[56] Poverty incidence gives an even more dismal picture. From its lowest in 1997 to its highest in 1999 there is a 60% increase in the proportion of poor [Table 6]. An effort to construct a consistent series from all available data shows the poverty incidence more than doubling from 15.3% in early 1997 to 33.2% in late 1998[57].

The poor were hit disproportionately, first because the prices of the goods which they consume, particularly rice and other staple foods, increased more than the prices for the middle class. The price of many non-tradable goods and services –house rents, servants' wages and other services costs and government-provided services like electricity– increased very little.[58] These non-tradable expenditures are important for the non-poor, but small in the budgets of the poor. Declining real wages imposed a burden on the poor but kept labor prices low for the non-poor. Second, some of the labor-intensive sectors were hit especially hard, most notably construction. A substantial number of the poor also earn their income from the services, shining shoes, as sidewalk peddlers, or bicycle rickshaw drivers. When the economy turns down one way to cut expenditures is to use services less often, decreasing the demand for the labor of the people who provide them. Because of the rapid inflation in staple food prices and the decline of labor-intensive sectors the poor were hit disproportionately.

But not all of the poor were affected equally. Regions, farms and factories that produce tradables and that were not seriously affected by civil strife, benefited handsomely from the devaluation. During the worst of the Crisis, when some feared for their lives and many feared

for their property, even areas producing for export or competing with imports suffered. As soon as there was enough security for production to resume, the profitability of most producers in these areas soared: real wages had fallen and the prices of the goods they produced quadrupled, as the Rupiah fell from 2,500 to the dollar to 10,000 Rupiah per dollar. Of course, it was not the poor who benefited from this in most cases; it was the owners of land or factories. But as their demand for labor increased, in tandem with their exports or import-substituting production, wages fell less or increased in the areas in which they operated. Real wages in Java fell by one-third, while off-Java, where agricultural export commodities are more important, they fell by a fifth [Table 8]. In a Province where export crops were important real wages declined only briefly and were above where they had been in 1997 by 2000[59]. But on average the incomes and expenditures/consumption of the poor declined more than those of the non-poor as a result of the Crisis.

Nutritional measures of the impact of the Crisis give a less dismal picture than indexes of income or expenditures/ consumption. The Starchy Staple Ratio [SSR] is especially broad-based. That ratio – "the share of caloric intake derived from starchy staple foods [grains and tubers][60]" including rice, wheat, corn/maize, cassava – is a good index of the quality of the diet. The smaller the proportion of foods that are cheap and supply primarily calories and the higher the proportion of more expensive foods in the diet the greater the welfare/income is expected to be. The SSR confirms income/expenditure data on the decline in poverty from the late 1980s to 1996. For the poorest 40% of the population the SSR declined, that is it improved, by about 10% during the period of growth from 1987 to 1996 in rural and urban areas [Table 8]. Since population shifted to urban areas with a lower SSR, the national improvement was above 10%. That improvement in the SSR is quite consistent with improvement in other measures of poverty.

The impact of the Crisis on this measure of the welfare of the poor was small. While incomes and expenditures/consumption showed a 20-40% decline, the SSR for the rural areas barely worsened and that for the urban areas worsened/ increased only by 4%.[61] The previous declining trend in the proportion of starchy foods was reversed by the Crisis, but even for the poorest 20% the picture is comparable: an improvement of about 10% from 1987 to 1996 and a deterioration to 1999 that is small in the urban areas and negligible in the rural areas [no data for the depth of the Crisis in 1998, however]. Data on calories consumed, another index of welfare from the same group of analysts, yield somewhat different conclusions for the poorest 20%[62]. Total calories declined by 11% during the Crisis, consistent with other data on income and consumption/ expenditures [Table 8]. The proportion of calories from tubers and grains does not change over this period, confirming that for the bulk of the poor the SSR also did not change. Clearly these two nutritional measures of welfare appear somewhat inconsistent with data from income/ expenditures. Possible explanations of the discrepancies are given below.

Yet a third nutritional measure, malnutrition of children as measured by the percent underweight, declined by 15% from 1989 to 1995, very much in line with the drop in poverty during these years of rapid growth. However, during the same 6 years the proportion of severely underweight nearly doubled [Table 8][63]. This is quite consistent with the other data on the premise that there is a small cohort of ultra-poor who do not benefit from increased

Table 8: The Poor During Crisis and Recovery

		Real Agricultural Wages			Starchy Staple Ratio		Real Expenditures on Food			Calories Consumed			Children Underweight	
		Deflated by Rural Price Index*			Poorest 40%		Poorest 40% (in 1996 Rp.000)			Poorest 20%			[in %]	
Year	Real per cap. GDP (1993 Rp. in thousands)	Java	Non-Java	National	Urban	Rural	Low quality - tubers, grains (% of total food expends.)	High quality- fats, oils, beans, animal, fruits, vegetables	Total food expen-ditures **	Low quality - tubers, grains (% of total diet)	High quality- fats, oils, beans, animal, fruits, vegetables	Total calories	Total	Severely
1987	1,303				74.4	80.4								
1989	1,425												37.5	6.3
1990	1,501				75.1	78.4								
1992	1,656												35.5	7.2
1993	1,744				72.3	76.5								
1995	1,965												31.6	11.6
1996	2,087	104	106	105	66.6	73	10.0 (47%)	11.2	21.3	1,175 (75%)	394	1,570		
1997	2,152	105	107	106										
1998	1,841	73	83	76									29.5	10.5
1999	1,829	72	85	76	69.1	73.9	9.6 (51%)	9.5	19.1	1,049 (75%)	354	1,404	26.4	8.1
2000	1,891	80	95	85									24.6	7.5
2002	1,971	75	101	83	63.1	69.7	10.0 (43%)	13.2	23.2	1,061 (70%)	457	1,518	27.3	8
2003***	2,003	75	105	84										

Notes: *Index 1996=100. Deflator used here is NOT the urban CPI used elsewhere in the paper, but the rural CPI. It is based on prices collected in rural markets in the same area as the villages from which the wage data are collected. Also it uses the consumption basket of rural consumers. For both reasons it is much more appropriate than the urban CPI using urban prices and consumption baskets. However the sample from which consumption information is collected is limited to cultivators/ farmers who hire workers, not the poor.

**Total derived from sum of subgroups.

***2003 data based on what was available at the time of this paper:

- GDP estimated by multiplying second quarter GDP by 4; population estimated using 2002 figures and rate of growth.
- Agricultural wages average of quarters I, II, III only.

Sources: GDP: from Jammal 2003; Agricultural Wages: BPS Monthly Wages Reports (data to 9/2003); SSR from: Molyneaux, 2003;
Expenditures from: Molyneaux, Rosner,, 2003 (poorest 40% from addendum in personal correspondence from Molyneaux);
Calories from: Food Policy Support Activity/USAID, 2003; Children's nutrition from: Atmarita, et al, 2003

demand for unskilled labor because these families have no member able to work. They therefore would not benefit from higher wages attendant on rapid growth. Severely underweight children would come from these families, for whom special welfare measures would need to be designed.

Surprisingly the proportion of underweight and severely underweight children actually fell during the Crisis and the post-Crisis period to 2002, and by 22% and 35% respectively, a considerable achievement. The explanation given by the team from the Ministry of Health, which analyzed these "Growth Faltering Rates," [64] is that a two-pronged strategy protected children from the worst effects of the Crisis. First, the price of food, primarily of rice, was stabilized—presumably only after the worst of the Crisis had passed—and second, a food supplementation program for infants, young children and expectant mothers was administered through the existing health system [community health centers and village midwives primarily]. The program seems to have quickly and effectively reached its intended beneficiaries. These SSN [Social Safety Net] programs were effective less than a year after the Crisis hit Indonesia.

Slow Growth and Modest Recovery

Given the depth of the crisis in Indonesia some analysts have been impressed by how well and quickly the economy adjusted to the new situation. Above all, some indexes of poverty showed a remarkably quick improvement and a return to the pre-Crisis situation by 2002. Others stress the slow rate of recovery compared to other Asian economies and emphasize measures of poverty that show the poor worse off. Which is correct?

Confidence and Capital Flows

With respect to a major cause of the Crisis, the collapse of confidence in the stability, security and future of Indonesia, the picture obviously improved, but remains relatively bleak. Net official flows, which had been negligible from 1994 through 1996 added $10 billion to the resources available to Indonesia in 1998, or 8% of GDP, substantially offsetting the 11% of GDP which flowed out on private account. A further $5 billion came in during the next year, mostly from aid, but since $10 billion continued to flow out on private account, the overall balance was still highly negative. Because of Indonesia's heavy indebtedness and large public debt servicing burden before the Crisis the major transfers from the aid donors quickly tailed off. Moreover while the donors, and especially the International Financial Institutions, were prepared to provide large amounts to deal with the immediate impact of the Crisis to prevent an escalation of unrest, they became more demanding in terms of reforms once the economy stabilized a bit. In particular, the World Bank did not agree that Indonesia had justified a high level of transfers. As a result of both a large debt burden and the limited aid transfers, net official flows turned negative again in 2001 and 2002.

Private capital flows continued to be large and negative, exceeding $8 billion [nearly 6% of GDP] even in 2001, the fourth year after such massive flows had been the key ingredient in the Crisis. The first year of the presidency of Megawati Soekarnoputri succeeded in

providing a degree of confidence in the stability of the macro-economic environment, of Cabinet positions and the political life. Massive capital flight came to an end and both domestic and foreign investors drove the stock-market to an excellent performance. Some Indonesian capital returned and foreign private investment showed signs of life, particularly in buying up assets for sale by the government liquidator. But net private flows remained negative in 2002 [Table A.4].

With both private and official flows negative, Indonesia continued to suffer capital outflow in 2002, and probably in 2003.[65] The change from a capital inflow of about 5% of GDP in the 2 years before the Crisis to an outflow of over 6% in 2001 and 1.5% in 2002 was clearly a major factor in prolonging the Crisis. The reasons why even foreign direct investment continues to be negative five years after the Crisis began are discussed below and in a World Bank report[66].

Policies and Growth During the Recovery

Most aspects of macroeconomic policy, and especially the exchange rate, were again well-managed in the recovery period. But some errors made during the Crisis –partly with the advice of the IMF- made it more difficult to achieve a high rate of post-Crisis growth, because they aggravated its depth and cost. Most errors had to do with the banking system and monetary policy and are discussed elsewhere[67].

Another factor in slow recovery was the uncertainty of economic policy under the first two Presidents to succeed President Soeharto. Both carried out substantial reforms, primarily in the political realm,[68] crucial for the future of democracy in Indonesia, but which also increased the risk and uncertainty perceived by investors when the reforms were strongly resisted. One result was frequent changes in the Cabinet and in some economic policies. Investors were uncertain how long a particular policy would last and whether a commitment would be honored by the next Minister. The stability in the Cabinet and in macro-policies under President Megawati was a factor in the slowdown in capital flight and the appreciation of the currency. A final, and especially important factor in achieving modest growth in the economy was that macroeconomic policy was both stable and well-designed by a new technocratic team that remained in office during her entire Presidency.

However little progress was made on needed reforms and policies designed outside the ambit of the Ministry of Finance [and the Coordinating Minister for the Economy] were often counter-productive. These included a successful attempt to raise the price of rice and sugar by a tariff and other protectionist measures. The increased rice price had especially dire effects for the poor. Also serious were problems in reforming the judicial system and bringing corruption under control more generally. An ambiguous attitude towards foreign investors further limited that important element in bringing capital, access to markets and technology and in fostering competition to improve efficiency. Inadequate investment in infrastructure was a further obstacle[69]to investment in industry and agriculture. Decentralization created obstacles to trade, new players in the corruption market, with uncertain reliability and risk that was difficult to appraise. Rising labor costs became a serious problem in 2000 for large firms producing for the world market. Gross investment,

which had exceeded 25% of GDP by the mid-70's and rose to more than one-third of GDP by the 1990s[70]remained around 20% in 2002, much of that simply covering depreciation.[71] The consequences for growth were obvious: the growth rate remained mired at 4%, inadequate to absorb entrants into the labor force in productive jobs, much less to dent the backlog of underemployed.

The Importance of Labor-Intensive Exports

One of the bright spots for Indonesia during the crisis has been labor-intensive exports. Allowing the market to set the exchange rate at the height of the Crisis resulted in the dramatic depreciation of the Rupiah. This was a principal factor in massive default on loans, rapid inflation and other shocks to the economy which drastically reduced the income of the poor. But it also facilitated a rapid response of the economy. Producing exports and goods which substituted for imports became profitable, despite great uncertainty, high or prohibitive interest costs, a virtual embargo on loans to Indonesian enterprises, a highly uncertain political and economic environment and other problems. At first the negative factors were too strong: ethnic Chinese businessmen, in fear of their lives, did not care what the potential profits were, they were only concerned to get their money out. Transport and trade were interrupted by similar fears, and all activities were hit by the general unrest and some lawlessness. Shrimp firms were raided and mining properties were subject to illegal mining. Non-oil exports in 1999 were down by some 8% over 1997, demonstrating one more time that in a period of extreme risk and disorganization even strong economic incentives can not prevail. But the strong incentives provided by the exchange rate kept the rout from being worse and also helped to stimulate domestic production of goods previously imported.

By 2000 farmers were responding to more favorable Rupiah prices for export commodities and new marketing channels had evolved to by-pass risky or disrupted areas[72]. Foreign purchasers of some manufactured goods found Indonesian prices sufficiently compelling to take the risk of purchasing there and, upon experience, found the actual risks were less than what they had feared. By 2000 non-oil/gas exports were $50 billion, some 20% above what they had been in 1999 and 12% above their previous high point in 1997. The increase in import-substituting production is more difficult to determine, but clearly the lower real wages in Indonesia, when compared to world costs, would have affected import-substituting activities as much as exporting ones. In dollar or Yen terms the average wage in manufacturing for unskilled and semi-skilled labor in 1998-00 was half [or less] what it had been in 1996 [Table 9]. Manufacturing employment, which had fallen to 10 million during the Crisis, after having increased five-fold to 11 million during the 30 years of rapid growth, by 1999 was up to 12 million workers. This was a major factor in increased labor demand, the key to reducing poverty. Construction lost fewer than one million jobs in the Crisis and gained fewer than a million during the recovery to 2002 [Table 10]. Agriculture gained the most jobs during the recovery. However it is the quintessential "work- and income-sharing" sector. It is therefore difficult to be certain whether the number of workers increased because there was increased demand for labor or because they crowded in for lack of alternatives, sharing an unchanged output among more claimants. The decline in real wages is strong evidence that it was the latter.

The Role of Low Wages: The Impact of Rising Wages

An important element in poverty reduction during recovery from the Crisis therefore was the growth of manufactured exports [and of import substitution] in response to higher Rupiah product prices and lower real wages. Both were the result of devaluation. However, by 2002 Indonesia was losing its competitive advantage in the international market in many labor-intensive commodities. This important source of growth and employment was ending. The basic problem for Indonesia's declining competitive position was long-standing: in many respects Indonesia was a high cost economy:

- Corruption imposes the cost of bribes, of risk and uncertainty, and of steps to minimize risk. Decentralization added another layer to those costs.
- Transport, electricity and other infrastructure costs were high, in part because of unreliability of supply, in part because the cost of corruption was factored in.
- Government controls and regulations raised costs in and of themselves, in addition to the opportunity they provided for rent-seeking or bribes. The World Bank is only the latest agency to document the excruciating process of establishing a business and estimating its length [168 days] and cost [14.5% of average income]. The delays and cost are smaller for established or large businesses but the costs of regulation are significant and decentralization has added new layers.
- Indonesia was perceived as a high risk, high uncertainty country after the fall of Soeharto. Investors demand a higher return to invest in such a country.
- Salaries are high and productivity is relatively low for skilled, technical, professional and managerial workers in Indonesia, especially compared to such countries as India, China, Vietnam, Philippines and Malaysia. This was due to the colonial pattern in which Indonesians had far less education and responsibility than indigenous people in other colonies, aggravated by the small number of first-rate secondary and tertiary schools and other educational weaknesses.
- In addition to these long-standing issues causing high costs, some of which are seen as comparatively worse by many investors [Table 5], Indonesia was seen as a country of high risk after the Bali and Marriott hotel bombings and other incidents of bombing and ethnic strife.

Traditionally factors that compensated for these high costs and risks included:

- Access to a large domestic market.
- Access to low cost raw materials, important in some production processes.
- Low labor costs, which have been the principal factor that allowed labor-intensive, footloose industries to establish in Indonesia. Low labor costs have also been important to the competitive position of resource-based processing industries [rubber, shrimp, tourism]. In effect *poorly paid workers [and rich raw material resources] have subsidized the rents of the wealthier groups as well as the inefficiencies of the system for much of the past 20 years* or more.

But labor costs have been rising since 2000. The average[73] wage for unskilled and semi-skilled workers in large and medium-sized industrial firms has increased from the equivalent

of $ 7.3 or Yen 841 per week in 1998 to $ 20 and Yen 2,360 in Quarter II of 2003, a nearly three-fold increase in labor costs for exporters [or for goods competing with imports -Table 9]. Of course, wages were unusually low during the Crisis years. But current wages are 50-70% higher in Dollar and Yen terms than they were during the last rapid expansion of non-oil/gas exports from 1986 to 1991. Even compared to their highpoint in 1996 wages have increased 9% in Dollar and 13% in Yen terms. Yet before the Crisis investors' perception was that Indonesia was an attractive country with quite low risk. They were prepared to tolerate higher wages than now. After the Crisis the perception is that Indonesia is a very high-risk country with great corruption and high infrastructure costs. Low wages are one of the few factors compensating for high risks and costs. The highest wages in dollars and Yen can therefore be decisive in the decision not to invest. Of course higher wages are good for the poor if they are the result of rising demand for labor and rising labor productivity. But if they are pushed up beyond the marginal product of labor by government fiat they can -and in Indonesia's case do- discourage hiring and encourage some factories to move out.

One major reason for the increase in $/Y wages is the effectiveness of minimum wages, pushed up by governments since 2000[74]. Wages in agriculture and other activities not covered by the minimum wage have been stagnant in real Rupiah since 2000[75] while wages in organized manufacturing have increased by about 50% in real Rupiah. The other factor in increasing $/Y labor costs has been the appreciation of the Rupiah since 2001 by almost 20% against the Dollar and over 10% against the Yen. As a result of both factors average industrial wages in dollar and Yen reached their highest point ever in early 2003; they were nearly triple what they had been at their low point in 1998, more than double what they had been in 2000. At $20 a week or more than $3 a day for a 6-day week they are no longer cheap compared to other labor-abundant Asian economies.

Agricultural products and goods that could be produced in the informal sector have also become less competitive than during the Crisis. Dollar/Yen wages in these sectors were also pushed up by a rate of inflation in Indonesia higher than in many competing countries combined with the appreciation of the currency. But unlike larger firms, wages in these sectors were not further increased by minimum wage legislation which did not effectively apply to them. Because of the appreciation of the Rupiah, the Dollar/Yen wage in agriculture is 2.5 times higher in 2003 than it was at the depth of the Crisis, even though in Rupiah purchasing power agricultural wages in Java and some other Provinces are still below where they were in 1997. But in $/Y terms they are 60-80% higher than during the rapid expansion of exports in the late 1980s and slightly higher than at the previous high point in 1996 [Table 9]. Therefore even for activities not affected by minimum wage legislation Indonesia's competitive position is beginning to be affected by the combination of rapid inflation and currency appreciation. At more than a dollar a day agricultural wages are no longer among the cheapest in Asia, as they had been for 1997 to 2001 and for 7 years after the devaluation of 1986, when they ranged from $0.49 to $0.72. But they are still well below large/medium firm wages and would have constrained wages in the latter, except for the effect of minimum

Table 9: Wages in US Dollars, Yen and Rupiah, 1976–2003

Year	Nominal Daily Agriculture Wage			Weekly Manufacturing Wage			Exchange Rate	
	In Rupiah	in US$	In Yen	in Rp.000	in US$	in Yen	Rp/US$	Rp/Yen
1976	187	0.45	127				415	1.5
1977	206	0.50	116				415	1.8
1978	224	0.36	67				625	3.4
1979	254	0.41	94				627	2.7
1980	529	0.84	176				627	3.0
1981	649	1.01	216	8.4	13.10	2,812	644	3.0
1982	719	1.04	232	10.6	15.27	3,411	693	3.1
1983	796	0.80	183	12.5	12.61	2,881	994	4.4
1984	897	0.84	206	14.6	13.58	3,353	1,074	4.4
1985	940	0.84	167	16.7	14.84	2,973	1,125	5.6
1986	1,036	0.63	101	16.4	9.99	1,596	1,641	10.3
1987	1,160	0.70	87	18.1	10.95	1,348	1,650	13.4
1988	1,075	0.62	78	19.3	11.15	1,391	1,731	13.9
1989	1,170	0.65	93	20.9	11.64	1,670	1,797	12.5
1990	1,269	0.67	89	22.3	11.74	1,571	1,901	14.2
1991	1,434	0.72	90	24.8	12.42	1,552	1,992	15.9
1992	1,613	0.78	97				2,062	16.6
1993	1,828	0.87	97				2,110	18.9
1994	2,078	0.94	94	33.6	15.26	1,522	2,200	22.1
1995	2,423	1.05	108	38.0	16.45	1,691	2,308	22.5
1996	2,666	1.12	130	43.1	18.10	2,095	2,383	20.6
1997	2,934	0.63	82	50.3	10.81	1,405	4,650	35.8
1998	3,782	0.47	54	58.9	7.34	841	8,025	70.0
1999	4,854	0.69	70	72.9	10.29	1,049	7,085	69.5
2000	5,465	0.57	65	90.8	9.46	1,086	9,595	83.6
2001	6,212	0.60	78	122.3	11.76	1,545	10,400	79.2
2002*	7,405	0.83	98	154.9	17.33	2,038	8,940	75.4
Q1/2003	8,048	0.90	107	139.0	15.62	2,268	8,896	74.9
Q2/2003	8,215	0.98	117	169.7	20.17	2,360	8,413	70.5
Q3/2003	8, 387	0.99	118	-	-	-	8,503	70.8

Notes: *For recent periods nominal agricultural Rupiah wages are not available, only index numbers are reported. Nominal wages in Rupiah have again been reported in 2003. For the years from 1999-2000 nominal daily agriculture wages were calculated by applying the change in the agriculture wage index to the nominal wage in 1999. Figures for industrial wages for 2003 are "preliminary" or "very preliminary".
Source: For 2002-03 wage indexes BPS 2003 a. Earlier wage data from Papanek, Molyneaux and Choesni. Exchange rates from Bank Indonesia.

wages*. The high minimum wages benefited a handful of the poor whose income was raised well above the poverty line, but at the cost of the great majority of the poor who could no longer get higher wages in the formal sector but were forced to crowd into the remaining work- and income-sharing activities, to the detriment of labor incomes there.

* Average wages in large and medium-scale industry rose 50% or more above agricultural and informal sector wages as a result of minimum wages.

The impact on Indonesian competitiveness of high non-labor costs, of increased perceived risk and sharply increased labor costs was compounded by the increasing competitiveness of several Asian countries, most notably China. China has increased its market share in Indonesia's principal exports by 40% in just 4 years to 2001[76]and has continued to gain since then. In other commodities Vietnam and to a lesser extent India, Bangladesh and even Cambodia are increasingly competing with Indonesia. Some of these countries are seen as less risky and less corrupt, and all have been able to restrain labor cost increases better than Indonesia by preventing their currency from appreciating and by not pushing up the minimum wage of industrial workers. As a result there is increasing evidence that the growth of manufactured exports first slowed and then reversed, at least in major export lines. Declining competitiveness affected import-competing industries as well. Employment in manufacturing may have started to decline at a time when Indonesia needs to create jobs for new entrants into the labor force.

The major categories of manufactured exports[77]totaled $ 18 billion in 1997 and $ 22 billion in 2000. By 2002 these exports were down to $ 19 billion and in the first half of 2003 were running at $ 18 billion[78]. The 20% decline since 2000 would be larger in constant dollars or in terms of shares of the world market. Total non-oil/gas exports are also down in these years, but by less because of an increase in the value of two exports [minerals and palm oil], one of which is not labor-intensive.

The consequences for employment are quite dramatic if available data are to be believed. Employment in large- and medium-scale enterprises in manufacturing was down by less than 5% during the Crisis, and in 2000 was up by nearly 10% over Crisis lows.[79] But by the end of 2002 and the first quarter of 2003 employment in these factories was down almost 20% from what it had been at the high point. Since Indonesia needs to add jobs to absorb the additions to the labor force, a decline in employment in the sector that was most dynamic before the Crisis is a serious matter.

An econometric study[80] concludes that for every 10% increase in the real minimum wage employment in the formal sector declines by a bit more than 1% for all except white-collar workers. But the impact of higher wages on employment is greater for the poor: employment for the less educated declines by 2%, and for women and youths by 3%. On reasonable assumptions[81] then the increase of more than 100% in the $/Y wage since 2000 would imply a 20% decline in the employment of unskilled/ uneducated/ poor workers and a more than 30% decline in poor women workers[82] in the formal sector. On the basis of another study one can conclude that the rapid increase in minimum wages has lost the economy over a million jobs in the three years since wages began to rise in 2000.[83] These numbers are very crude estimates, of course, but they do indicate the magnitude of the problem.

To increase employment in the formal sector and especially in manufacturing, Indonesia needs to end the escalation of the minimum wage and to encourage the exchange rate to drift down in line with the higher rate of inflation in Indonesia than in competing countries. Both, and especially any depreciation of the exchange rate, will create problems elsewhere in the economy. For that reason and because of other benefits it would be far better to tackle some of the aspects of the high cost economy directly. But this has been on the agenda of the

Government and the donors for years. Progress has been painfully slow, largely because of political obstacles. Macro-economic tools, like the exchange rate may therefore have to be used, although it would be both more efficient and more equitable to tackle rents, corruption and inefficiencies directly, which benefit the wealthy, rather than to attack higher labor costs, which benefit mostly a labor elite, some of them near-poor.

The Poor During Recovery from Crisis: Success or a Continuing Problem?

The Decline in Poverty Incidence—A Remarkable Success Story?

One's interpretation of what happened to the poor during the recovery from the Crisis depends on the data one believes [see Appendix B]. Poverty incidence is the number most widely used. By 2002 the percent below the poverty line was virtually the same 18% as the comparable numbers in 1996, just before the Crisis, low for poor countries in Asia[84]. That poverty in 2002 has been reduced to the low levels achieved before the Crisis despite low growth is widely seen as a remarkable success. An independent compilation, using the same data gives an even more optimistic picture: 18.7% was the poverty incidence in 1996; it was only 15% in 1997, just before the Crisis. This unofficial estimate gives a more dismal picture of the impact of the Crisis: by the end of 1998 poverty incidence was 33% compared to "only" 23% in early 1999 for the official estimates. The unofficial estimate is also of a more dramatic improvement: to an incidence of 13% in 2002[85], far better than in 1997 and in comparison with the official 18% in the same year [Table 6]. But both estimates agree that recovery from Crisis was swift and massive, with poverty incidence back to where it was before the Crisis or better by 2002.

Some caution is in order, however. As noted earlier, the estimated poverty incidence –and therefore the estimated number of poor- is very sensitive to assumptions and methods. Because of changes in how the poverty line is calculated one cannot be sure that poverty in 2002 is indeed fully back to where it was in 1996. Other data can shed light on whether improvements in poverty were as remarkable as the incidence data suggest.

Nutritional Data Support the Conclusion of Success in Reducing Poverty

The conclusion that the poor were at least as well off in 2002 as in 1996 is strongly supported by data on the SSR, the Starchy Staple Ratio. It measures the quality of the diet. As one might expect, the SSR worsened during the Crisis, but the deterioration was so small that it could be within the margin of error[86]. More remarkably, by 2002 the SSR was 5% better/ lower than in 1996, the lowest ever. The SSR confirms the most optimistic measure of poverty incidence: the poor were better off in 2002 than they had been at any earlier time [Table 8]. A more detailed look at the diet leads to the same conclusion. For the poorest 40% the proportion of food expenditures devoted to the cheaper, lower quality components of the diet rose by only by 4 percentage points during the Crisis. After the Crisis the percentage spent on grains and tubers, the low quality components, fell to a rate below what it had been in 1996. The share of high quality food was up by 4 percentage points in 2002 compared to 1996, again leading to the conclusions that the nutrition of poor was better post-Crisis than

pre-Crisis. Caloric consumption shows a similar pattern for the poorest 20%: in 2002 the calories from high quality foods were 15% higher than in 1996.

From a different perspective the same numbers are less rosy. Total calories consumed were down slightly [3%] and the calories from grains/tubers were down significantly because of the sharp increase in the price of rice. The imposition of a 30% tariff on rice had raised its price, with a negative impact of the diet of the poor, as they had to spend significantly more for this staple. If one focuses on total food consumed then the situation of the poorest 20% or 40% is clearly better than during the Crisis, with nearly 10% more total calories and nearly 30% more high quality calories. But compared to 1996, total calories are down by about 3% and expenditures are up by 10%. However, the quality of the diet is significantly improved.

The lower SSR and the accompanying shift from grains to higher value foods can have at least 3 possible explanations:

- *It reflects a true improvement in welfare and income*;
- *It results from a secular change in preferences.* As Indonesians became better informed, and their incomes increased by 65% from 1987 to 1997 [Table 8], they became accustomed to a better diet. Even though their income in 2002 was less than before the Crisis they were willing to spend a higher proportion of their income on food in order to consume the animal products, oils and vegetables they had become accustomed to. With this explanation the decline in the SSR is no longer a good proxy for higher incomes and welfare, just an indication of a shift in consumer preferences;
- *The decline in SSR is due to a change in relative prices.* Grain prices increased 30-45% faster than price for beans, nuts, fats and oils from 1996 to 2002[87]. Since the poor respond more to price changes than the non-poor [higher price elasticity] it is not surprising that they shifted expenditures from rice, to beans, nuts, fats and oils.

The two papers on changes in nutrition over time do not analyze to what extent changes in the SSR and diet composition reflected improvements in welfare, long-term changes in diet preferences or adjustment to relative prices. To determine whether the poor in 2002 were as well off as in 1996 such a disaggregated analysis would be crucial.

Data on underweight children are mixed. As noted earlier, the proportion underweight actually declined during the Crisis thanks to an effective targeted program. But when the price of rice was raised by import tariffs[88] while the supplemental feeding program was phased out in 2001 the number of underweight children quickly rose 10% in two years. Despite this worsening in the proportion of children who were underweight, however, the percent underweight was still substantially less than before the Crisis: by 14% for the underweight and by a third for severely underweight, another piece of evidence that poverty was down to 1996 rates or better.

Expenditures of the Poor Are Also Back to Pre-Crisis Levels—Or Are They?

Data on the expenditure of the poor are a broad measure of what happened to their welfare and less subject to statistical vagaries than the poverty incidence. But the conclusions from that measure depend on the price deflator used to calculate expenditures at constant prices.

Appendix B analyzes the three deflators available and concludes that the rural CPI [Consumer Price Index] comes closest to reflecting the consumption bundle of both the rural and urban poor and closest to the prices actually paid by the rural poor. The food component of the Urban CPI comes closer to the appropriate weights than the General urban CPI, the most widely accepted and used deflator, but matches the consumption bundle [and prices] for the poor less well than the rural CPI. Because further work is needed to provide solid evidence that the rural CPI comes closest to reality, and because it is clear that none of the existing deflators are adequate to fully reflect the consumption and prices faced by the poor, data in Tables 6 and 7 report expenditures/wages deflated by several measures of the CPI.

Estimates of the expenditures/consumption[89] of the poorest 40% then depend on the deflator used:

- When deflated by the Urban CPI the consumption of the poorest 40% rose an amazing 62% from 1998 to 2002 [Table 6], and was 7% higher in 2002 than it had been before the Crisis. The latter is partly the result of a small rise in average expenditures in the rural areas and partly of a shift of population from the lower income rural, to the higher income urban, areas.[90]
- Using the more appropriate food price deflator or the rural CPI, expenditures for the poorest 40% in 2002 were 10% and 20% respectively lower than before the Crisis [see Appendix B on why these 2 deflators are more appropriate for the poor than the Urban CPI]. With the rural CPI as deflator there is a greater decline in expenditures for the rural poor during the Crisis than with the General Urban deflator and a greater recovery. Using the food price deflator the expenditures of the urban poor were still 16% below their level in 1996.[91] All 3 deflators show substantial recovery, with the welfare of the rural poor only somewhat below where it had been before the Crisis. One other positive point: the only data for 2003, those for real wages of agricultural workers, show them still increasing slowly, but still below where they were in 1996[*] [see below and Table 6].

One other point is worth noting: for the poor most of the recovery from the Crisis took place in one year: from 1998 to 1999. In the next 3 years their average expenditures increased very little, or not at all [depending on deflator]. The large gains post-Crisis were made when prices of food actually declined in 1999. With food price inflation again accelerating to more than 12% and the economy growing very slowly, expenditures for the poor and real wages were stagnant or barely increased from 1999/2000 to 2002.

In short, the expenditure data augment the poverty incidence and nutrition data in showing a swift recovery from the Crisis for the poor as well as the non-poor. However, using the better of the three unsatisfactory price indexes one can conclude that the picture is not as satisfactory as the poverty incidence and SSR data suggest in two respects: [i] by 2002 the expenditures of the poorest 40% were still about 10% below what they had been before the Crisis and [ii] there had been little improvement in the 3 years after 1999; the expenditures of the poor had virtually stagnated during these years of low growth and quite high inflation.

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[*] The whole problem of deflators is greatly aggravated by the rapid changes not only in absolute [food] prices, but also in relative [food] prices. As a result there were sharp changes in the consumption basket in a relatively short time. This greatly complicates the problem of constructing an appropriate deflator and making comparisons of real magnitudes at different times.

Wages of the Poor Are Still Well Below Pre-Crisis

Appendix B briefly addresses the issue of using the wages of unskilled workers in the informal sector as a proxy for changes in the income/expenditure of the poor. The issue is being addressed in more detail in a separate paper [Papanek, Molyneaux, Choesni]. Wages for agricultural workers can be shown to be a good proxy for the income of the rural poor. They parallel those for household servants and haircuts in urban areas. The latter are a good proxy for the income of the urban poor, as were the wages of unskilled and semi-skilled industrial workers in medium- and large-scale firms. But industrial wages tracked other measures of poverty only until 2000[*].

As might be expected, agricultural and other wages declined by more than expenditures of the poor during the Crisis and rose by more than expenditures during the recovery. The poor tried to maintain their consumption as their income plummeted by drawing on stocks of rice and other foods, drawing down savings and borrowing from friends and relatives. During recovery consumption rose more slowly than income as they rebuilt stocks, repaid loans and added to savings.

Using the rural CPI as the most appropriate deflator [see Appendix B] and the most accurate measure of the impact of the Crisis, which struck August/ September 1997, by comparing the high point [mid-1996 to mid-1997] with the low point [mid-1998 to early 1999] the decline for agricultural wages was close to 40%. From that low point recovery was swift, took only about a year and increased real wages by about one quarter [from low point; Tables 6-8]. But since 2000 real wages in agriculture have stagnated. By mid-2003 they averaged more than 20% below their high point in 1996/97 [Table 8]. Wages thus present a more pessimistic picture of the state of the poor than is given by poverty incidence and by most of the nutrition data, especially the Starchy Staple Ratio.

Growth and Employment Data Also Support Pessimistic Conclusions About Poverty

Wage data are however consistent with data for per capita income and employment. Annual GDP growth averaged 7% during the 30 years when poverty declined sharply. A consensus had emerged that growth higher than 5% was needed to reduce poverty[**]. Growth during the recovery was a tepid 3%, less than 2% per capita. As a result, by 2002 per capita income was down some 8% compared to 1997. Where then had the demand for labor come from that would raise labor income and thus reduce poverty? In 1999 the impetus for higher real wages could have come from the low [2%] rate of inflation in those years, including a decline in food price, but in 2000-2002 inflation averaged 11% [Table A.4], high by Indonesian standards.

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[*] Beginning in that year the rapid rise of the minimum wages, combined with effective enforcement, caused industrial wages to diverge sharply from all other measures of poverty, as these workers largely left the ranks of the poor.

[**] To create the jobs needed to absorb the 2 million added to the labor force annually and then to push up wages by drawing additional workers out of the work- and income-sharing activities.

Data on employment also call into question the excellent record in poverty reduction since the Crisis ended. Employment data in Indonesia, as in other poor countries, are difficult to interpret since the poor can not afford to be unemployed for any length of time. Open unemployment therefore reflects mainly job opportunities for middle class and educated school leavers. With this caveat the employment data shed some light on poverty. Currently about 2 million additional workers enter the labor force each year, a total of 10 million from 1997 to 2002. Five million were added to the ranks of the unemployed. What is startling is that 3 million were added in the 2 years since 2000, after the Crisis had come to an end, but only 2 million during the Crisis [Table 10]. This is an indication that few jobs were created after the end of the Crisis.

Manufacturing and construction increased employment by 7.5 million during their period of rapid growth from 1985 to 1997 [Table 10], absorbing nearly 30% of the increase in employment directly and probably much of the remainder indirectly by increased trade, transport and services demanded by them or their workers. Both manufacturing and construction were hard hit by the Crisis and shed 2 million or about 15% of their labor force. By 2002 they had absorbed only 10% of the increase in the labor force since 1997. Employment in all small and household firms in 2001 was still 1.7 million below where it had been in 1996 [although over one million larger than during the Crisis]. So it was not in this sector of the economy that many new jobs were being created[92]. In 2000 employment in large and medium-sized manufacturing firms was up by 10% over the numbers during the Crisis and 5% above what it was in 1996. It is reasonable to assume that the impetus for this expansion came primarily from export industries and secondarily from those replacing imports[*]. But by the end of 2002 employment in these manufacturing firms was down by 20%, reflecting the declining competitiveness of Indonesian manufacturing in the world market [see earlier discussion of growth and decline in manufactured exports].

Of course, agriculture remains the dominant labor-intensive sector. It employed close to two-thirds of the labor force in the early 1970's. By 1985 it still employed more than half. What happened from then on is interesting. Over the 12 years to 1997 value added in agriculture increased by 40% but employment by only 6%.[93] As the Crisis foreclosed other employment opportunities workers crowded into agriculture, sharing jobs and income, as output increased very little. By 2000 employment in agriculture had increased 14%, or five million, but value added had increased by a paltry 2.5%. On the optimistic assumption that all of the workers who entered agriculture in the 12 years before the Crisis did so in response to new productive jobs created there and that the elasticity of employment per unit of additional output remained the same, that increase in output would have created an additional 0.3 million jobs between 1997 and 2002. The other roughly 4.5 million people who entered the sector were not drawn by additional demand for labor but were pushed into it by lack of opportunities elsewhere in the economy. Agriculture remains a safety net for many families. But it absorbs additional labor only at the price of declining real wages.

[*] Manufactured exports increased by nearly one-quarter, mostly from labor intensive industries, while total value added in manufacturing increased about 15%.

Table 10: Employment by Sectors and Total (in million)

	1962	1971	1980	1982	1985	1990	1997	1998	1999	2000	2001	2002
Agriculture,Forestry,Fishery	24	25	29	32	34	36	36	39	38	41	40	41
Trade,Finance & Services	5	8	14	16	18	21	30	30	30	29	30	29
Manufacturing	1.9	2.6	4.7	6.0	5.8	8.2	11.2	9.9	11.5	11.6	12.1	12.1
Construction	0.6	0.6	1.7	2.1	2.1	2.9	4.2	3.5	3.4	3.5	3.8	4.3
Mining,Utilities, Transport&Communication	0.9	1.0	1.9	2.2	2.4	3.5	5.3	5.0	5.1	4.6	4.4	5.5
Total employed	33	38	52	58	62	72	87	88	89	90	91	92
Unemployed		3.6	0.9	1.8	2.0	2.0	4.3	5.1	6.0	5.8	8.0	9.1
Labor force total		41	52	60	64	74	91	93	95	96	99	101
		1975	1979		1986	1991	1996					
Small & Household firms, total							16.8	14.1	14.5	15.0	14.7	
Of which: Small and Household Manufacturing only		*4.2*	*3.6*		*3.5*	*4.8*	*6.6*	*5.3*	*6.1*	*6.3*	*6.1*	

Source: BPS (1997); BPS-Statistical Year Book various; BPS-website for Sectoral employment and unemployment. Small and Household: collected from published and unpublished BPS data, especially the SUSI surveys for recent years.

Calculations on labor demand in Trade and Services are also dubious. Large parts of these two sectors are also subject to work and income sharing. Like agriculture, therefore, increased employment can be the result of increased demand for labor or of crowding in, the lack of opportunity elsewhere. In any case the number employed in these sectors in 2002 is actually less by one million than in 1997.

The *conclusions* from the employment data are dismal: of the 10 million people added to the labor force from 1997 to 2002, and the unknown millions who were already underemployed in 1997,[94] one million found work in manufacturing and one million in other formal sectors [transport], offset by one million pushed out of services [and trade]. Five million were added to the unemployed and another 4 million or so crowded into agriculture to share the work and income there. The increase in excess labor in agriculture and other informal sector occupations would explain why real wages in for the bulk of unskilled workers are well below where they were in 1997.

In short, it is at best premature to conclude that the poor are as well off in 2002 as they were before the Crisis. True enough, poverty incidence and nutrition data suggest poverty is down to near pre-Crisis levels or better. But wage and employment data imply that the poor are still significantly worse off than they were before the Crisis and that there has been little improvement since 2000. Using a deflator that appropriately gives great weight to food, consumption data support the pessimists' conclusions about poverty. Significant further improvement in the well-being of the poor most probably requires acceleration in the rate of growth.

Increasing Regional Disparities—A Partial Explanation of Conflicting Data on the Poor?

One possible, partial explanation for differences in conclusions from different data is the result of increasing disparities among Provinces and differences in weighting regions. It is in any case important to recognize that poverty in Indonesia, as in other large countries, is highly concentrated. Policies to address poverty therefore need to be region-specific.

Where Are the Poor and How Has This Changed?

More than half of the poor are in Java, as is more than half the population; poverty incidence has differed only slightly from that for the country as a whole. But that is a misleading conclusion, shaped by the location of Jakarta in West Java. Urban poverty in Indonesia, as in most countries, is far below rural incidence. Jakarta has nearly 5% of the total population and a poverty incidence of about half that of the rest of the country. It therefore held down poverty incidence for all of Java. In fact, for Central and East Java the incidence of poverty is about 50% higher than average for the country. The situation in Java has deteriorated over time: Indonesia has added 3.5 million poor people between 1996 and 2002; 2.7 million or nearly 80% were added in Java. As a result, the poverty incidence in Java has increased more than elsewhere in the country during the Crisis.

The second center of poverty is the Eastern Islands, dry lands with few natural resources; they have the highest poverty incidence among the regions: double that in all of Indonesia, with one third of the population below the poverty line. As a result they had a concentration of poverty second only to Java's although they had less than 15% of the country's poor. They did not suffer proportionately during the Crisis and the number of their poor has declined quite sharply since then. This is not a sign of progress, however. The Province of Maluku [the Moluccas] has lost population due to religious and ethnic strife. As poor people have moved to North Sulawesi and elsewhere there has been a reduction in the absolute number of poor, hardly a good way to reduce poverty[95].

Southern Sumatra, and especially the Province of Lampung, is in many ways an extension of Java. Migration from Java to Lampung has been so large that the majority of the population is Javanese. Like Java, the number of poor and poverty incidence have increased. Northern Sumatra's poverty has also increased. There civil strife in Aceh has spilled over. A large number of refugees from Aceh are desperately competing for jobs, driving wages down. Crime has also increased as desperate people with arms try to recoup their fortunes. Finally the Province's government and Governor have been embroiled in charges of corruption,

which has not helped. In Aceh the civil strife has taken its toll. For all these reasons little or no investment is taking place in either Province, slowing growth and increasing poverty.

By contrast there are some Provinces that have come through the Crisis relatively unscathed and where poverty has declined since. A remarkable improvement in poverty incidence took place in North Sulawesi. At the height of the Crisis poverty incidence was higher than in Java. Two years later [2000] it had fallen by nearly half –from 24% to 13%. It was up to 17% two years after that, probably because of an influx of Christians fleeing religious strife in Maluku for a majority Christian Province and driving down wages in the process. Still, poverty is only at 1996 levels.

Bali is another relative success. It always had the lowest poverty incidence in Indonesia for any area with a substantial rural population. Only the Province of Jakarta's is lower, but of course it is purely urban. Compared to 1996 poverty incidence was down by a quarter in 2000. In 2001 the tourist industry was hard hit by terrorism and other problems, resulting in a 40% increase in poverty incidence. Bali's labor-intensive exports of handicrafts and garments provided enough employment to prevent further deterioration and made for renewed progress in 2002 when tourism revived somewhat. The influx of population from nearby Java [and from the Christian majority areas of strife-torn Maluku] kept improvements from being more dramatic. West Kalimantan benefited from oil and timber development. It did not create many jobs, but not many needed to be created to employ the small additions to the labor force.

Declining regional disparities prior to the crisis, followed by widening disparities

Data on real wages of agricultural workers give a dynamic picture of declining regional disparities in the early 1990s, followed by widening disparities thereafter. From 1991 to 1997 nominal wages in Java rose more rapidly than outside of Java because of the demand for labor created by industry and construction, both concentrated in Java. As a result of greater increases the nominal agricultural wage in Java, which had been nearly one-quarter below the rest of the country in 1991 [Table 11.b] had essentially caught up by 1996/97,[96] perhaps the only time such equality was achieved. But Java was harder hit by the Crisis, in part because of the collapse of the building industry in Jakarta. Wages off-Java fell 22% year on year, while for Java they declined 30%.[97] Recovery was also greater and faster off-Java. As a result the rough parity in wages of 1996/97 had become a gap of nearly 20% in 2000. The disparity has become even more serious since then: real wages continued to rise off-Java until they were back to where they had been before the Crisis, while for Java real wages actually fell from 2000 to 2003. As a result, by early 2003 wages off-Java were more than 25% higher than in Java. The change from equal wages to this gap in 7 years is a significant one. In other words real and nominal wages of unskilled workers in Java have increasingly fallen behind those in other regions since the Crisis and there is no sign of the trend reversing.

Table 11: Regional Poverty: Levels and Trends, 1996–2002

Table 11.a: Number of Poor and Poverty Incidence by Regions and Provinces

	1996	1997	1998	1999	2000	2001	2002
Regions:							
Java							
million of poor	19.0	15.9	23.3	28.6	22.5	22.3	21.7
% poor	16.3	13.5	19.5	23.7	18.7	18.4	17.5
Eastern Indonesia							
million of poor	4.3	3.7	3.9	5.2	4.4	3.9	3.8
% poor	37.6	31.7	32.6	43.6	37.1	32.7	31.2
Southern Sumatra							
million of poor	3.2	3.3	4.2	4.5	3.9	3.4	3.7
% poor	19.4	19.3	24.7	26.3	23.1	19.9	21.1
Northern Sumatra							
million of poor	2.0	1.7	2.0	2.6	2.1	2.0	2.5
% poor	12.9	11.0	12.7	16.2	13.5	12.5	15.6
South/Central Sulawesi							
million of poor	2.2	1.6	2.0	2.6	2.1	2.3	2.3
% poor	19.2	13.6	17.3	21.8	18.3	19.4	18.8
Provinces:							
N Sulawesi							
million of poor	0.5	0.4	0.7	0.5	0.4	0.5	0.5
% poor	17.7	13.7	24.4	18.2	13.0	16.4	17.4
Bali							
million of poor	0.2	0.2	0.2	0.3	0.2	0.2	0.2
% poor	7.7	5.7	8.2	8.5	5.7	7.9	6.9
W Kalimantan							
million of poor	0.9	0.8	0.9	1.0	1.1	0.7	0.6
% poor	23.8	21.1	24.2	26.2	29.4	19.2	15.5
Other							
million of poor	1.9	1.6	2.5	2.7	2.2	2.4	2.4
% poor	11.0	9.0	14.3	15.4	12.7	13.2	12.7
Indonesia							
million of poor	34.2	29.1	39.8	48.0	38.7	37.7	37.7
% poor	17.2	14.5	19.5	23.4	19.1	18.3	17.9

Sources: ADB (2000) and BPS (2003). For 1999 ADB and BPS data are identical.
NOTES: National data are consistent with the Provincial data; they differ slightly in some years from the National data from other sources based on the same Susenas surveys. The National data were compiled later and were subject to the usual revisions.
Java includes W Java (and Banten), Jakarta, C Java, Jogyakarta, E Java;
Eastern Indonesia includes West and East Nusa Tenggara, Maluku (and North Maluku), and Papua;
Southern Sumatra includes Jambi, S. Sumatra (and Bangka Belitung), and Lampung;
Northern Sumatra includes Aceh and North Sumatra;
South/Central Sulawesi includes S Sulawesi, C Sulawesi, and SE Sulawesi; North Sulawesi (and Gorontalo);
"Other" includes W Sumatra, Riau, Bengkulu, C Kalimantan, S Kalimantan, and E Kalimantan.

Table 11.b: Agriculture Wages: Levels and Trends by Regions and Provinces

	Real Agriculture Wages (Jan 1996=100)									
	1996	1997	1998	1999	2000	2001	2002	2003		
								Q1	Q2	Q3
Indonesia	105	106	76	76	85	83	83	82	85	86
Java	104	105	73	72	80	78	75	73	76	77
Non Java	106	107	83	85	95	96	101	102	102	111
North Sulawesi	111	126	101	116	135	138	155	157	157	163
Bali	107	108	84	80	94	104	115	124	128	131
South Sumatra	105	107	84	85	100	100	116	124	126	128
Lampung	106	99	78	84	91	89	87	85	86	86
West Java	100	94	66	62	67	67	68	69	69	69
Central Java	107	110	76	73	81	79	76	75	80	80
North Sumatra	107	107	83	85	93	91	83	83	83	83
South Sulawesi	105	105	77	69	74	74	80	84	86	89
West Nusa Tenggara	106	115	89	96	110	101	99	92	97	100

	Nominal Daily Agriculture Wages (Rp.000)												
	1991	1996	1997	1998	1999	2000	2001	2002	2003			Ratio	
									Q1	Q2	Q3	97/91	03/97
Indonesia	1.4	2.7	2.9	3.8	4.9	5.5	6.2	7.4	8.0	8.2	8.4	2.0	2.9
Java	1.3	2.7	3.0	3.8	4.8	5.3	6.0	7.1	7.7	7.9	8.0	2.3	2.7
Non Java	1.7	2.6	2.9	3.8	5.0	5.8	6.6	8.0	8.7	8.8	9.4	1.7	3.3
North Sulawesi	2.0	3.8	4.6	6.7	11.2	12.6	15.7	19.2	21.6	22.1	23.2	2.3	5.0
Bali	2.0	3.6	3.8	5.1	6.5	8.0	10.2	13.0	14.6	15.3	15.5	1.9	4.0
South Sumatra	1.6	2.2	2.3	2.9	3.9	4.6	5.4	6.9	7.6	7.8	8.0	1.4	3.5
Lampung	1.3	2.2	2.3	2.7	3.6	3.9	6.3	7.3	7.6	7.7	7.7	1.7	3.4
West Java	1.5	3.0	3.3	4.1	5.1	5.5	7.9	9.4	10.1	10.2	10.4	2.2	3.1
Central Java	1.0	2.1	2.3	2.8	3.6	3.9	5.2	6.1	6.7	6.9	7.0	2.3	3.1
North Sumatra	1.8	2.9	3.1	4.2	5.6	6.5	9.1	10.7	12.0	12.1	12.2	1.7	3.9
South Sulawesi	1.5	2.4	2.6	3.2	4.1	4.7	7.5	9.4	9.8	10.0	10.3	1.7	4.0
West Nusa Tenggara	1.5	2.5	2.8	3.8	6.1	7.1	7.5	9.2	9.6	9.8	9.8	1.9	3.4

Notes: The data for Q3-2003 of South Sumatra are only for July; for North Sumatra and South Sulawesi for July and August; The ratio for 03/97 is calculated by dividing Q3-2003 by 1997.
Source: BPS 2002 & 1997; BPS-The Poverty Monitoring Report & backup tables for years since 1997

When one disaggregates the data to the Provincial level, the increasing discrepancies become even more dramatic. What is worse, rapid increases in real wages tend to have occurred in Provinces where wages were already high and poverty was low, although this is far from universal. North Sulawesi and Bali, where nominal wages were already the highest in 1991 had a rough doubling of nominal wages to 1997 and then a 4-5-fold increase to 2003. On the other hand South Sulawesi, Central Java, Lampung and South Sumatra, with the lowest wages in 1996, had at best a tripling and in some cases just a 2.5-fold increased in nominal wages. North Sumatra, due to its location next to Aceh and its poor governance record is an exception: it had relatively high wages in 1996/97 but is still 25% below pre-Crisis levels in real terms. West Java also had done well in the past but was hit by the end of the building

boom and later by the decline in some export industries in Jakarta, Bandung and the industrial belt around them. As a result of rising disparities, the gap in wages between poor Central Java and rich North Sulawesi, which was less than 2:1 in 1996, has risen to more than 3:1 [Table 11.b].

Provincial growth and poverty—the causal relationship

The hypothesis underlying this paper is that the crucial relationship for the income of the poor is the growth in demand for unskilled labor in relation to the growth in its supply. The increase in demand for labor obviously depends heavily on the rate of overall income growth and its labor intensity. The reason some Provinces have done well is that their output of labor-intensive goods [and services] has grown rapidly, while their labor supply has not grown commensurately. Over time, labor moves in response to differential wages and the disparities should again decline. This process has, however, slowed in the post-Crisis period as increasing ethnic and religious strife has made it increasingly unpleasant and risky for poorer Javanese to move to some off-Java Provinces.

The Provinces that have benefited from the depreciation of the Rupiah have done well, as their output of traded goods rose rapidly and with it the demand for labor to produce them[98]. Their exports have boomed and their domestic prices have risen as well. In addition Provinces producing cloves and some other cash crops benefited from the termination of monopoly procurement. It had diverted a substantial share of profits from the devaluation into the pockets of monopoly holders. With its end the prices received by farmers rose, output increased and so did labor demand.[99] Bali, another Province that has done well, is heavily reliant on tourism and on the export of garments and handicrafts produced by an outsourcing system. Its village- and home-based producers are not affected by minimum-wage legislation. Bali has therefore remained more competitive than garment producers in West Java, who were hard-hit by rising industrial wages. Maluku was subject to conflicting influences. On the one hand, its large-scale production [and export] of spices and other labor-intensive agricultural products meant it was a significant beneficiary of the devaluation. But the religious/ ethnic conflict interfered with production and trade, and destroyed confidence needed for investment. The conflict also led to flight of population, which reduced the labor supply and prevented a further increase in poverty.

Rice, of course, is a tradable and has traditionally been imported into Indonesia in years of shortfall and exported in rare years of surplus. Rice producing areas therefore also benefited from the devaluation which more than doubled the wholesale price of rice in 1998. But the impact of rising rice prices differs greatly among groups in producing regions because rice is *the* most important wage good in the Indonesian economy. When rice prices rose ahead of the wages of rice workers in 1998, surplus farmers who grow more rice than they consume benefited: their labor costs rose slowly, their product prices rose quickly. But deficit farmers or agricultural workers, who bought rice in the market and derived most of their income from their labor, lost. Wages declined and poverty increased in Provinces such as South Sulawesi and Lampung, major rice producing areas. But some casual observers noted signs of obvious prosperity in rice producing areas, due to the benefits which rising rice prices brought to surplus farmers, and concluded that the rural poor had not suffered[100].

In the last few years there has been a sharp drop in the world price of rice, which would normally have offset those benefits which could have benefited the poor. But a tariff on rice imports pushed up the cost of consumption and reduced the real income of the poor who are net purchasers of rice. For surplus farmers the tariff increased profitability and postponed the days when they must make the adjustment required by the new world prices, by shifting to more profitable crops.

The effect of higher traded goods prices—really an improvement in the Terms of Trade for a Province or region that was a net exporter—affected not only the commodity concerned, but also the rate of growth of that Province. And vice versa for Provinces that were major importers of tradables, especially rice, and that had been labor exporters. North Sulawesi's income [GDRP] declined only 2.4% in 1998 and rose 6% in the next two years. In contrast, North Sumatra's declined nearly 11% and rose only 3.5%. An econometric analysis at the sub-Provincial level reaches the same conclusion: that 70% of the differences in the change in the incomes of the poor over the period 1993 to 1999 is due to differences in the growth rate.[101] The authors also speculate that this high proportion is due to the labor intensity of growth in Indonesia during this period, which is similar to the conclusion in this paper.

The *conclusion* from regional experience then is the similar as for the country: *what matters to poverty reduction is the growth in demand for the labor of the poor and in the supply of such labor in a particular region or Province.* Growth in demand for labor is principally a function of the rate of economic growth, while growth in supply is largely exogenous in the short run, but affected by migration in the medium term.

With decentralization, disparities among regions and Provinces are bound to worsen as Districts and Provinces with the best natural resource endowment benefit from controlling the bulk of the tax resources generated in their area. Poor areas will lose out as the National government has fewer resources for equalizing expenditures. The poorer Provinces also tend to lack both a developed infrastructure and a tax base to develop it. They are therefore doubly handicapped in attracting footloose industries to create the jobs they so urgently need. Policy decisions in some of the Provinces threaten to worsen the situation: they pushed their minimum wage well above that in other Provinces with less of a poverty problem[102].

Policy implications of rising regional disparities

Rising regional disparities increase the importance of national programs targeted on poorer groups and regions, an issue addressed below. They also increase the importance of national policies to address the issue, most notably transfers from the National government that favor the poorer areas. Discretionary transfers already favor poorer areas, but more can be done with matching grants to help poorer areas develop policies and programs that deal effectively with poverty.

CHAPTER FOUR
QUANTITATIVE ANALYSIS OF FACTORS AFFECTING THE POOR

Quantitative analysis provides further information on factors affecting the real wages of agricultural workers, a proxy for the income of the poor. The regressions in Table A.2 are not very sophisticated. The conclusions from them are, however, supported by similar analyses done in India[103] and from the consistency of results regardless of the time period examined or the specification used. They are worth reporting until there is a more sophisticated analysis of variables affecting the income of the poor.

Changes in Wages Are Linked

That agricultural and industrial wages consistently change together with little lag is shown by highly significant coefficients that range from 0.7 to 1.1 [Tables A.2]. When agricultural wages rise by 10%, industrial wages increase by 7%-11% in the same year. These findings support the contention advanced earlier that the industrial and agricultural labor market are linked and that changes in the wages of agricultural workers can be used as a proxy for changes in the wages or labor income of other workers. Since these regressions were completed the correspondence between changes in the two wage series no longer holds, as the industrial wages have been sharply pushed up by rapidly rising and enforced minimum wages legislation. As far as one can tell the changes in other wages still are highly correlated, including wages in small and household firms.

Accelerating Inflation Results in Declining Real Wages; Declining Inflation in Rising Real Wages

For Indonesia, as for all other countries for which the analysis has been carried out, the rate of inflation is highly, but negatively correlated with real wages: when inflation is high and/or accelerates the adjustment in nominal wages seems to lag and real wages decline. In annual data[104] 60-80% of the inflation is made good in the same year by a rise in nominal wages and the remaining adjustment in the nominal wage occurs in the second year. Of course, if inflation continues to accelerate, as it did in the mid-1960s for instance, the nominal wage will continue to lag behind and the real wage can continue to fall.

From quarterly data for Java one can conclude that for every 10% increase in inflation real wages fall about 3% in the first year.[105] There could be two alternative explanations for the decline in real wages when inflation accelerates. First both higher inflation and lower real wages could be caused by a decline in output or income in the country as a result of natural catastrophe or of changes in the terms of trade or because of mismanagement of the economy. Alternatively, the negative effect on real wages, and therefore on the income of the poor, could be due to inflation itself causing real wages to decline. Some combination of the two is likely in many cases. If both higher rates of inflation and lower real wages are caused by a third factor, mostly a reduction in total supply, then the policy prescription would be to deal with the true cause of both. If inflation is a separate policy variable then it would be sensible to tackle it directly.

The regression analysis provides limited evidence that inflation is an independent causal variable. The regressions include variables for either GDP or agricultural output to reflect supply conditions. Nevertheless inflation remains highly significant after taking account of these output variables. This econometric evidence is supported by an analysis of the impact of an increase in the rate of inflation caused by policies. For instance, the price of rice has been pushed up by the tariff on rice, currently 30%. Given the importance of rice in the CPI, the increase in rice prices as a result of the tariff has resulted in a significant increase in the CPI, which in turn has resulted in a decline in real wages. Lowering the tariff could, in effect, reduce poverty by reducing the price of rice and slowing the rate of inflation[106]. Both regression analysis and historical evidence support the notion that the rate of inflation is an important, independent policy variable.

But neither this history nor the regressions provide clear evidence on the longer-term effects, if any, of inflation on real wages. What is being picked up could simply be a 6-18 month lag in the adjustment of nominal wages to accelerating inflation. The effect of accelerating inflation would nevertheless be serious for the poor in periods like 1960 to 1966 when inflation in every year was greater than in the year before, or even in short periods like 1972-74 or 2001-02 when short-term spikes in inflation were accompanied by declining real wages. But in that case lowering the rate of inflation is not a policy variable that is likely to result in an increase in the trend income of the poor. Stabilizing prices can avoid sharp setbacks for the poor, but is not a policy that necessarily results in higher incomes over the medium term

The Rate of Growth and its Labor Intensity are Crucial

Variables that measure growth in output are normally highly significant in the regression analysis. Increases in GDP or in agricultural output per capita are proxies for the demand for labor. GDP growth was used for the more recent period, when labor demand was generated across the economy, but especially by labor-intensive manufactured exports. Regressions that covered an earlier period, when the principal source of new employment was in agriculture, generally tested the effect of growth in agricultural value added per agricultural worker. These output variables were generally significant.[107] In the more recent time period when agriculture mattered less in generating new productive employment the variable for growth in agricultural output was generally not significant.

Labor-Intensive Public Works Had an Impact on Wages, General Development Did Not

A striking finding of the regression analysis is that the government's decentralized, labor-intensive public works program [INPRES] had a significant impact on wages in two of the three major Provinces in Java[108]: for every 10% increase in expenditures on the program real wages increased by 1.5–2.4%. These programs therefore provide governments with a flexible and powerful tool to compensate for local conditions that have a negative impact on the poor and to target areas left out of national developments.

Another conclusion is surprising: that other development expenditures had no clear impact on wages. One plausible reason is that during the 11 years under analysis there was little

variance in development expenditures, so the impact of changes is hard to discern statistically. More likely is that many aspects of the regular development program were not labor-intensive so its impact on the demand for unskilled labor was, in fact, slight. The contrast with INPRES is instructive. Expenditures on that labor-intensive program increased rapidly to 1982/3, and then stagnated for the next two years. When government faced budgetary problems in the late 1980s the program was sharply cut back. The consequences of these cutbacks quickly became evident as one factor in lower wages and increased political problems. Government responded to the political fall-out by more than tripling expenditures on INPRES in nominal terms. The variance of INPRES was therefore great and so was its labor-intensity. The regular development program, of course, will have a major longer-term impact on poverty through its effect on growth, but this cannot readily be discerned in a simple, very partial-equilibrium analysis of the kind used here.

CHAPTER FIVE
GENDER AND POVERTY

In discussions of poverty reduction in Indonesia there is nearly universal recognition of the importance of attention to its gender dimension. The objective of "mainstreaming" gender – shaping government policies to pay attention to the impact of policies on women - has been a feature of poverty reduction programs for some time. The gender dimension of poverty may be especially important in Indonesia because of its unusually high rate of divorce[109][and remarriage], presumably resulting in a large number of female-headed household. Yet in Indonesia as in most countries analyses focus mostly on non-economic issues.[110] Virtually no attention has been paid to the massive impact of economic policies on women. The introduction of small rice hullers, for instance, has displaced hundreds of thousands of women who had been employed in pounding the rice. Conversely the rapid growth of the garment, electronic and pharmaceutical industries has employed hundreds of thousands of women. Both trends were fostered by government policies*.

Analyzing these effects is difficult because there appear to be no gender-disaggregated poverty data. Wage data could permit gender disaggregation, but have not been compiled in that form as yet.[111] There is therefore little one can say without doing original research. However, in Java hoeing is done by men, transplanting of rice largely by women, weeding by both. The wage series for these operations can therefore serve as a proxy for gender-disaggregated changes. All three series move so closely together that any one can serve as a proxy for the other two, at least until 1999.[112] Hoeing wages were consistently higher, but contain an unknown element of non-wage payment,[113] so no firm conclusions can be reached about the extent of higher wages for men until weeding and transplanting wages are compiled by gender. However, it is clear that over 20-odd years [1976-99] demand for labor by men and women and their wages moved in parallel.

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* Rice hullers, like most machinery, were exempt from import tariffs in an economy where the exchange rate was balanced with widespread use of import duties that added at least 15% to the cost of the average import and non-tariff barriers further increased the cost of consumer good and Intermediates. Conversely, government labor policies tended to keep labor costs low for exporters of manufactured good and the reforms of 1986/7 encouraged manufactured exports in a variety of indirect ways.

Industrial wages for garment workers, overwhelmingly women, moved differently from those for workers in bricks and tiles, overwhelmingly men. But these differences reflected the fact that garments are a major export commodity while bricks and tiles are non-tradable goods. Wages for women in the garment industry benefited from the drastic devaluation since the Crisis, those for men in bricks and tiles did not[114]. So real garment wages rose throughout 1997, while real brick/tile wages fell from the mid-1997 onwards; garment wages fell less in 1998/9; and rose more from the second half of 1999 through mid-2002 than for brick/tile workers. That this had little to do with the gender of workers and a lot with the nature of commodity is shown also by the fact that wages in the cigarette industry, staffed mostly by women but non-traded, paralleled those for bricks and tiles, not garments. Little additional analysis of industrial wages is possible until data are gender-disaggregated for the same industries.

Analysis of absolute wages by gender suffers from the same data problem. Average wages in the women-dominated garment industry is almost double the average wage in the women-dominated cigarette industry as well as in the male-dominated brick and tile one. Clearly these differences are not due to gender but rather to occupation[115].

Gender differences in education have also had an impact. Women were significantly less educated until recently, as evidenced by the fact that literacy for adult women is about 10% lower than for men. But by the 1980s Indonesia had achieved universal primary education and by 1999 enrollment rates for males and females were the same all the way from primary to senior secondary schools, unlike most Muslim countries. Only at the tertiary level did men still have slightly greater enrollment [12% vs. 10%]. Both the rapid growth of female-dominated industries and the increasing parity in education should lead to increasing parity in pay. This is what appears to have happened in Sri Lanka. But until better data are available this remains speculation. What is clear from the agricultural wages is that women benefited as much as men from rapid growth.

PART II
TARGETED PROGRAMS OR SOCIAL SAFETY NET (SSN) PROGRAMS

Indonesia developed a large menu of targeted programs designed to help the poor. Several were very successful, but others suffered from poor targeting. The experience therefore provides useful lessons. The most important programs were [i] a large, labor-intensive public works program and [ii] what has often been called "the largest and most successful program of credit for micro- and small enterprises". They are the focus of this section since other programs, such as food subsidies and SSN programs instituted during the Crisis were mostly neither particularly innovative nor successful. These other programs are only briefly addressed.

CHAPTER SIX
LOCALLY ADMINISTERED, LABOR-INTENSIVE PUBLIC WORKS

(Further details can be obtained from the author)

A special Presidential Instruction, hence INPRES, launched Indonesia's locally planned and administered program of labor-intensive public works in the early 1970s[116]. It continues to this day. Until recently programs had two principal objectives: the creation of infrastructure to contribute to growth and thereby help the poor and others in the medium term, and to help the poor directly in the short term by providing jobs and income. Since the program was seen as contributing to development and benefiting much of the population, it garnered wider support than programs that only transfer income to the poor. It could therefore be large enough to have a significant impact on employment and income, rare for targeted programs.[117] Except during the Crisis it has remained faithful to principles that made it successful in achieving its objectives.

The Principles of a Successful Program

Local planning, decisions and implementation; national technical help and supervision
Most construction programs are executed by national governments. But they have proved inefficient in planning and carrying out small, local projects and have lacked the flexibility to quickly respond to changing circumstances. Indonesia's program therefore was highly decentralized:

- Funds went directly from the national Interior Ministry to the bank of the district or sub-district body responsible for the project with no intermediaries able to dip into them on the way;

- A local body planned the project within a menu of eligible types of projects [which prohibited the building of offices and homes, but permitted most income-producing structures: roads, irrigation and drainage works, schools, health facilities and markets;

- Execution was also in the hands of a local body;

- National and Provincial governments provided funding, technical help, and audits.

To help the poor directly, labor needed to be paid, not volunteer
A fundamental principle was that poor people could not afford to work for free. While voluntary labor for the common good was an important ideal it was less appropriate for poor people, who needed to sell their labor in order to live, especially during the seasons when there was little agricultural work. That was also the ideal time for construction. During the off-seasons there was little or no opportunity cost to labor on local infrastructure projects.

To benefit the poor, the program needed to be self-targeting by setting wages at a sufficiently low level so that only the truly poor would find them attractive
No effective mechanism usually exists to identify the poor for work on labor-intensive projects unless they identify themselves by accepting work at low pay. This principle was abandoned during the Crisis, when it was required that at least the minimum wage be paid. But the minimum wage was often higher than the wage received by agricultural and other informal sector workers; the work-day for the public works program was usually shorter than in factories; and discipline was less. Public works employment then became attractive for some non- poor and became a patronage vehicle, benefiting the non-poor. But except for that aberration during the Crisis, wages were generally so low that the work attracted only the poor with no better alternatives. Even during the Crisis years some regional targeting [poor regions received more funds] and self-targeting due to unattractive wages in a few regions made for more effective targeting than for some other SSN [Social Safety Net] programs [See Table 12].[118] During non-Crisis years, when wages were low, self targeting largely assured that the beneficiaries were overwhelmingly the poor, a rare achievement for targeted programs.

Donated agricultural commodities funded the program initially under an ingenious arrangement to increase both the demand and supply of food and cloth
Aid in the form of food, cotton [and cotton yarn] has been criticized for reducing the price for domestic producers and discouraging agricultural production. However, such aid is attractive to recipient governments because it is often supplementary, not substituted for other forms of aid, and therefore can add to the resources available to a country. To avoid the negative effects governments have used donated food in "Food for Work" programs. But governments have limited capacity to deliver food to work sites. At best governments have to develop a distribution mechanism that duplicates commercial trade. At worst food will spoil, will be sold illegally and the food that is finally delivered will be inappropriate. Workers do not like these programs since they are given no choice in what to buy with their compensation. Because they are costly to administer and disliked by workers these programs tend to be small, inefficient and of limited use to the poor.

By selling the donated food in the open market through regular commercial channels Indonesia largely avoided these problems. Proceeds funded the labor-intensive works program. The funds it disbursed created additional demand. Nearly 70% of the expenditures were used to hire workers at a low wage.[119] Since the poor spend any increase in income overwhelmingly on food [and secondarily on cloth] over half the funds spent under the

program added to demand for food, and especially rice and wheat, and part of the reminder went to buy cloth. The donated commodities were primarily food-grains [and cotton/yarn for cloth]. So the increased supply of food was offset or more than offset by increased demand[120]. The poor who found work in the program were better off, but food prices did not decline as the result of additional food imports, so farmers did not suffer either. In effect this was a food-for-work program but it did not require that the government set up a new food distribution system. Rather, both food and money went through the regular mechanisms of the market and of government, and the two were balanced only for the economy as a whole.

Reducing corruption involved building in transparency, information and accountability
Corruption, other misuse of funds, and poor performance are problems in all organizations, including all governments. They are especially difficult to combat in large organizations and in those not exposed to the pressure of competition. Corruption is particularly problematic in Indonesia. Dealing with it is primarily a question of changing incentives, the costs and benefits of corruption by "transparency, information, linkages and access."[121]

- *A well-designed post-audit program.* A flexible program that could be launched and expanded quickly required a simple approval process. The corollary was the need for an effective post-audit process to check whether the work was carried out and to account for the use of funds. Careful post audit has always been an integral part of the program, but the most elaborate mechanism has been developed for the post-Crisis, World Bank-supported Kecamatan [sub-District] Development Program [KDP].[122] The essence is that the hierarchy for reporting is independent of that for project execution. It reports directly to headquarters in Jakarta without having to go through the regular government hierarchy, which would have an interest in stopping unfavorable reports.

In the freer post-Crisis atmosphere civil society is more effective in policing the programs. Universities and journalists have been commissioned to write reports and newspaper stories reporting on incompetence, shoddy work and corruption. Both are paid as part of the program costs, so they have the wherewithal and the incentive to do the work. The inspection system has proved effective. An outside consultant for the World Bank found instances of malfeasance but she and others concur that these are far fewer than in other programs.[123]

- *Pressure through the political system, based on mandatory public information and participation in decisions by the poor and by women.* Project managers were required to provide to the public the information needed so that significant malfeasance would be obvious, especially at the project site. The idea was to give political opponents of the sponsors the information needed for informed criticism of cost over-runs, padded budgets or failure to carry out promised construction. In the new democratic environment political pressure is more effective than earlier, when election results were usually pre-ordained or local officials were appointed.

Another relevant aspect of the political process was a requirement that the poor and women have a major role in decision-making. This requirement has been greatly strengthened in the current program, with "empowerment of the poor", and especially of poor women, and "improved governance" the major goals. Project design, selection and execution are in the

hands of two committees, one reserved for women, which the poor are to control. While control by the poor does not assure competence or honesty, at least it increases the chances that project will benefit the poor.

- *Operation in a circumscribed environment of requirements and prohibitions.* Finally the use of funds was carefully circumscribed. They could not be used for offices or residential buildings. At times it was specified that a high proportion of the funds had to be for wages, to preclude capital-intensive projects. Priorities were also specified at various times: for poorer areas or villages or for particular types of projects. Since there were usually far more projects proposed than there were funds, these priorities could substantially influence what was done.

It needed to be flexible in terms of size, the kind of works carried out, and the beneficiaries
The program could be expanded [or contracted] very rapidly in response to need and resources because of its decentralized nature, the use of different layers of government to plan and execute projects, and its emphasis on small projects. When oil revenues increased rapidly in the 1970s expenditures on INPRES increased six-fold in a 4 year period and again six-fold in the next five years[124]. During the 1980s budget crisis the program was cut back by a quarter. But since existing local government bodies largely carried out planning and execution, the machinery for the program remained in place. So when government recognized the political and economic cost of this cut-back and another oil-price windfall solved the budgetary problem, the program could be increased four-fold in five years.[125] When a similar program [KDP] was launched to mitigate the effects of the Crisis the number of sub-Districts covered could be increased by 50% from the first to the second year.[126]

The program was also flexible with respect to priorities. Schools, roads and health centers were always part of the agenda. But when Indonesia wisely decided to invest part of the second oil windfall in universal primary education and in improved rural health, the program accelerated the building of schools and primary health centers and devoted about half of all INPRES to them in 1984/5 to 1986/7. By the early 1990s the goal of universal primary education had been achieved, but rural roads became a pressing need to support increased agricultural production and diversification. Education was cut from 40% to 15%, health increased from 5% to 8% and expenditures on roads from less than 10% to over 25%[127].

The Credit Component of These Programs Was Largely a Failure

The KDP and its urban counterpart [UPP] had a revolving credit component, as did other employment programs launched during the Crisis. As discussed below, credit programs managed by government agencies rarely succeed. Because of the design of KDP and UPP failure was virtually inevitable. Empowerment of the poor was a principal objective of KDP/UPP. That meant the people in charge were not hard-hearted bankers but the friends and neighbors of the borrowers. They found it difficult to insist on payment of principal and interest. Repayment rates were low and credit did not revolve.

Labor-Intensive Public Works Programs Had a Significant Impact on Poverty

Most targeted programs for the poor have no discernable effect on poverty. Indonesia's labor-intensive public works were an exception. The econometric evidence of their impact on wages has already been discussed. There were several reasons why the impact of the program was considerable:

- It was quite large [up to about 8% of the National budget and over 1% of GDP] and, more important, very labor intensive and employed a significant number of workers. In 1981/2, when the program spent about 1.4% of GDP it created about 4.5 million jobs of 100 days each per year. That is, it employed nearly 10% of the total labor force. While these were not full-time jobs, neither are many other jobs in the labor force.

- Indirect effects included increased demand from the additional income received by the 20 million or so people in the families benefiting from the program. If one accepts some BOTE [Back of the Envelope] work done in connection with employment studies in Latin America [which are probably conservative for Indonesia] that for every primary job, 2 additional jobs are created indirectly in supplying goods and services to the beneficiaries then more than 13 million jobs were generated directly or indirectly at the program's high points. That is equal to nearly 7 years of additions to the labor force.

- By providing alternative employment in the off-seasons to people who would otherwise be desperately looking for work and income the program keeps them from pushing down wages for everyone. It provided a safety net in periods and areas that would otherwise suffer distress.

- In the 1990s targeting was fairly good because of low wages. If 60% of the direct benefits reached the poorest 40%, a reasonable assumption given the design of the project, that means an increase of 1% of the GDP in their income. Since these poor normally get 20% of GDP the direct benefits would translate into a 5% increase in income – a small but noticeable addition, without counting the indirect benefits[128].

- A final reason for the impact of the program on the poor is that project costs under KDP are estimated to be 20-30% lower than for most development projects in Indonesia, in large part because of less corruption.[129] An important corollary is that the political benefits of the program to the Government are greatly increased. The perception of corruption has been crucial in undermining public support for governments, and any agency seen to curb it gains great good will and support.

CHAPTER SEVEN
OTHER TARGETED OR SSN PROGRAMS

The Major Programs and the Effectiveness of Targeting

SSN programs were greatly expanded to cope with the Crisis and reached a high point of 1.4% of GDP in 1998/9,[130]about equal to the amounts that the labor intensive works program, had reached earlier in the decade. Experience confirms the difficulty of targeting the poor, especially for emergency programs to deal with a Crisis. Self-targeting programs are the exception: they work.

In 1998/9 almost 40% of the roughly $2 billion spent on "anti-poverty" or SSN programs was for subsidized rice. Geographic or regional targeting distributed subsidized rice to areas in proportion to the number of poor in each area. Administrative targeting then determined which families were to receive the rice, to be based on objective criteria: the national family planning agency had undertaken the monumental task of identifying 5 categories of poverty on the basis of proxies for wealth, income and ability to obtain basic needs.[131] These categories were widely used for targeting because they were the only ones available. In addition there was some incidental self-targeting, as the subsidized rice was considered less desirable.

Another 40% of expenditures were for programs to create employment. The two biggest were the labor-intensive public works programs of several ministries and the "community fund" program, of block grants directly to villages for public works or for "revolving" credit. Ministries such as Labor, Forestry and Agriculture served their own client groups. Each had its own criteria for identifying the poor, but assuring that only the poor benefited was not a major goal. The average daily wage under these programs was barely below the average for agricultural workers, but work requirements were reportedly less onerous. Since these are both averages it is clear that for some programs and in some regions the wage offered was an attractive one. As a result the wealthier 60% received 46% of the employment under the program. Even the richest 40% participated significantly in the work provided by the projects [3.5% vs. 7.1% for the poorest 40%]. These are programs where targeting could have been very effective if wages had been kept low, as they often were before the Crisis. Poor targeting was not due to administrative problems, but largely to political decisions.

About 10% of the SSN funding during the Crisis was for education. A major objective was to keep poor children from dropping out of school. Scholarships were provided to poor children, selected by school committees, and grants were made to schools in poor areas. Targeting was reported to be quite good initially, but to have deteriorated over time as patronage demands reasserted themselves. Relatively few children reach the upper secondary schools, so scholarships at that level are especially needed by the poor and especially difficult to administer.

Finally there were subsidies for medical services to the poor selected on the basis of the ubiquitous family planning lists. Nutritional supplements were virtually non-targeted, but nevertheless helped the poor because they reached such a vulnerable group.

Why Targeting Was Not Very Effective

Overall targeting was only moderately effective: roughly half of the poorest 40% received the subsidized rice[132] and participated in the employment programs. That means the higher income 60% also received [a bit under] 50% of the benefits. There were several reasons:

- Perhaps the most serious problem was one of targeted programs everywhere: *how to identify the beneficiaries.* Indonesia unlike most countries actually had a list of all poor families. But it turned out that the classification of the family planning agency was not well correlated with income poverty.[133] Village officials may well have had a better sense of who needed subsidized rice or education than the evaluators for the family planning agency, so some of the deviation from the lists may have been justified. But reliance on local official's judgment, the alternative method for selecting recipients, also proved flawed.

- *Self-targeting was used very little in these programs* despite its proven effectiveness. The administering ministries and local governments all wanted to have a maximum of discretion. With budgets sharply cut the best way to sustain various special allowances for their employees and to maintain their patronage network was to use SSN programs for both civil servants and patronage clients. Self-targeting, by subsidizing only lower quality rice or setting very low wages for the employment programs, and thus assuring that most resources went to the poor, defeated both objectives and was not attractive to administrators. Nor was it attractive to political leaders who wanted discretion to reward political friends prior to the imminent election.

- Local officials found it difficult to discriminate among recipients on the basis of a rigid classification of who was poor. There were *political and personal pressures to distribute the subsidized SSN benefits to most in the village, especially a large group of near-poor*. Especially in Java, where avoiding social friction is important, it turned out to be unrealistic to expect officials living in the community to deny the benefits of cheap rice or employment or a health card to families that were absolutely quite poor, though better off than the truly poor in the same village[134].

- *Corruption probably played a role*. How else to explain that even among the richest 20%, one quarter of the families received subsidized rice or the very high delivery/ administration costs of the programs.

The Impact of the SSN/ Targeted Programs on the Poor

The impact of income transfers on the poor was limited by both the relatively small size of the SSN program and its poor targeting. Most of the analyses of this issue concentrate on the

poorest 20%. This paper focuses on the poorest 40% because the poorest 20% include a high proportion of handicapped and other families with no member in the labor force. It is therefore difficult to know to what extent the low coverage by employment programs of the poorest 20% is due to the fact that many families had no employable members or due to defective targeting.

With SSN programs during the Crisis totaling less than 1.5% of the GDP at most, their impact was bound to be limited.[135] But effectiveness depended as well on the proportion reaching the poor. Perfect targeting cannot be achieved, but some programs, especially if self-targeted, have been able to assure that 70% of benefits reach the poorest 40%[136]. With only 50% of benefits reaching the poorest 40% they would have received between 0.55% and 0.75% of GDP in transfer income from all SSN programs in 1998/9 and the next 2 years[137]. With 70% targeting this group would have received 0.8% to 1% of GDP. To put this in perspective, the share of the poorest 40% in National Income in those years was about 20% [Table A.1]. With current targeting the SSN expenditures thus raise their income by 2.5%; with maximum reasonable targeting the increase in the income of the poor would be double that, at 5%.

During the Crisis many of the employment programs had a credit component to fund the expansion of private business. But, as discussed below and earlier little interest was paid and little principal repaid, so no revolving funds resulted. The benefits, both direct and indirect, of the credit portion of the employment-generating programs therefore were small and less than for the infrastructure ones.

Table 12: The Impact of Targeted Programs on the Poorest 40%**

Program	Funds Spent on Program		Funds reaching the poor*		**Share Reaching the Poorest 40%***
	Rp. billion	As % of GDP	Rp. billion	As % of GDP	
OPK/Rice subsidy	5,450	0.53%	2,700	0.26	49%
Employment	5,800	0.31%	3,100	0.31	54%
Primary education	1,550	0.15	Not available	Not available	Not available
Health, nutrition	1,450	0.14	Not available	Not available	Not available
Total	14,200	1.40%	5,800	0.57%	52%

Notes: "Employment" includes Padat Karya or Food for Work and PDM-DKE or Village Grants programs
Source: Calculated from Daly & Fane; & from Sumarto, Suryahadi & Widyanti.
Results are rough estimates, since they depend on several assumptions.
* These columns calculated for the 2 largest programs *only*, because published data in the referenced articles are not adequate for the purpose of calculating these columns for other programs.
** As is usual "poor" in this table are defined by what is often called income, and sometimes expenditures, but is in fact an estimate of consumption from the SUSENAS survey.

CHAPTER EIGHT
CREDIT FOR MICRO-, SMALL- AND MEDIUM-SIZED ENTERPRISES

[Further details can be obtained from the author]

Indonesia's micro-credit system and savings program has been called "the largest successful" program. It is therefore worth a brief Overview.

The Problems of Informal Credit and Government Programs

Before the micro-credit programs became important in the early 1970s Indonesia's small and household enterprises relied mostly on informal credit. Its great advantage was speed, flexibility and ability to lend without requiring fixed assets as collateral. Its biggest disadvantage was cost: interest rates of 150% to over 1000%.[138] Another disadvantage, shown by the wide range in interest rates, was a highly fragmented market in which some lenders could take advantage of monopoly position, of differences in knowledge and in bargaining power, with resulting inefficiencies. The traditional government credit programs were of little help to the poor, except as occasional handouts. With subsidized interest rates and low repayment rates they became patronage programs, primarily for the non-poor larger, more influential farmers and business. Since they were costly they could not be expanded rapidly and were not self-sustaining.[139] Corruption was inevitable. So most government programs were less efficient than moneylenders.

Commercial Banking

In the '60s the commercial banking system was overwhelmingly government-owned and operated. With the reforms of 1983/4 and 1987/8 private banking began to grow rapidly. Government required that both public and private banks lend 20% of their portfolio to SMEs [Small & Medium-sized Enterprises] and to agriculture. These government-directed credits overwhelmingly benefited the larger firms.[140] Banks tried to evade the requirement or to satisfy it at the least cost. That meant lending to firms that qualified technically, but that were not really SMEs. Therefore there was little increase in lending to SMEs as a result of the expansion of private banking that followed decontrol.

The weakness of government supervision and of internal controls was revealed by the crisis of 1997-99. Loan quality and risk appraisal had been poor. Self-dealing was widespread, often in flagrant violation of lending limits. Loans were extended to bank owners, their partners and their friends[141]. Foreign borrowing had been excessive because foreign interest charges were significantly lower than interest costs in Indonesia. The whole credit edifice had been built on three assumptions:

- That economic/ income growth would continue at the spectacular rate of 7-8% a year;
- That the rate of devaluation and the rate of inflation would both remain stable at around 4-6%;
- That competition would assure that credit was allocated efficiently and prudently.

The whole system collapsed when these assumptions proved hollow. The huge costs imposed on the Indonesian people, and especially the poor, have already been discussed.

The Impact on Credit of the Ethnic Divide, Connections and Corruption

Indonesia's ethnic divide and corruption played their usual roles of complicating the successful execution of any program. All actors in Indonesia rely on personal contacts, informal institutions and social sanctions to obtain information and enforce contracts because: [i] there are few formal sources of information about businesses, [ii] much of the judiciary system and the police are corrupt and subject to political influence, and [iii] commercial law is not well established. Informal networks are better for obtaining information on who is a good business risk and enforcing agreements and contracts. Family connections are best in both respects, the clan is almost equally effective, but even the ethnic group can exercise pressure and provide control. Business people are reluctant to welsh on an agreement with fellow-members of an ethnic group. Reputations spread quickly within the group. Those who fail to meet loan terms can find themselves ostracized. They cannot find business partners, firms willing to lend or sell to them, or buy from them, or even marriage partners for their children. It was perfectly sound business judgment to lend to those about whom information can be obtained and on whom social pressure can be exerted. This tendency to trade with and lend to members of the same family, clan or ethnic group was reinforced by prejudice and by a whole host of long-standing business ties. Most private banks, and almost all the larger ones, were in the hands of ethnic Chinese. Members of a few ethnic communities from outside Java-Bali owned a few. As a result, small firms owned by *pribumi* [those not ethnic Chinese or foreigners], and especially by Javanese, had a difficult time borrowing from private banks[142].

Public sector banks were the mirror image of private sector credit. None were run by ethnic Chinese and many were run by Javanese. Their informal mandate was to lend to *pribumi.* They also preferred to lend to larger enterprises with collateral and an established business record, and willing to pay a large bribe, even if they were badly run and always rolled over their loans, with interest added, and never paid back. The public banks largely failed to lend to dynamic firms that needed increased working capital or to smaller firms. The cooperatives, including the cooperative banks, were considered the principal institution supporting *pribumi* SME during the Soekarno and later governments, including a large push in 1998/99 and again in 1999/2000[143]. This was often a measure of desperation, as other efforts to help micro-enterprises and SME failed and as elections loomed. These institutions had limited deposit bases and operated primarily on government funds. The consensus of knowledgeable observers is that most of their loans were simply lost.

The Successful Expansion of MSME Credit

Reforms in 1983 permitted government banks to set their own interest rates. The largest government-owned retail bank, BRI [Bank Rakyat Indonesia or the People's Bank], launched a new program of "general purpose credit" with a *real* interest rate of about 20%, sufficiently high to cover all costs.[144] Equally important were facilities for deposits. The key to the success of both deposit and credit programs was their operation on a commercial basis. The expansion and reorientation of the BRI small credit and deposit programs was part of an increasing emphasis on support to Micro- and Small/ Medium Enterprises [MSME],[145] seen to have political benefits and to contribute to a higher rate of growth. Outstanding small loans[146] by BRI increased from Rp. 0.1 trillion in 1984 to Rp. 3.2 trillion in 1995, a more than 30-fold increase. In Rupiah terms loans nearly quadrupled yet again from 1995 to 2002[147], when they equaled 1% of GDP, at about $1.3 billion. Small rural savings deposits increased even more dramatically, from negligible to Rp. 1 trillion in 1989, and to nearly Rp. 23 trillion in 2002. All savings accounts at BRI reached nearly Rp. 28 trillion in 1999, a remarkable 3% of National Income [Details in Table D.1].

One caveat: about half of all BRI small loans are for housing and consumer durables, rather than for enterprises.[148] Of course, consumer loans also serve a genuine need, improve the efficiency of the economy and have contributed to sustaining demand. But they do not add to the productive potential of the country and they do not go predominantly to the poor. Even with this caveat the small savings and loan programs of BRI have been a success by world standards [see Morduch].

Another remarkable development after the Monetary Crisis was the rapid expansion, albeit on a small base, of commercial banks' willingness to lend to SME. Both private and public banks discovered that repayment rates varied inversely with size of loan. At BRI corporate loans experienced large-scale default; but less than half of SME loans missed even one interest payment. The overdue loans of SME were generally due to the Crisis and borrowers resumed servicing them as soon as they could. Micro-borrowers had the best repayment record of all, but lending to them was administratively too costly for most banks.[149] As a result of this record, lending to SME expanded, especially by the handful of private banks with experience with SME and a branch network to reach smaller firms outside the major commercial centers[150].

Principles of Successful MSME Credit

The basis of BRI's success in MSME lending was the decision to operate commercially, including:

Interest rates for both borrowers and depositors were set at the rates in the market, including a margin sufficiently large to generate a profit after covering the high cost of administering small loans. BRI lending rates of 32% in 1984 were far higher than those of government credit programs, at 12-15%. The small rural passbook rate on deposits never exceeded 20%. The margin between deposits and loans at the height of the Crisis was a very high 25%, assuring profitability even then.

Insistence on repayment of loans has been a hallmark of the Micro-loan program[151]. The experience of BRI clearly established that small-scale borrowers were conscientious about repayment once they saw that the lender was serious about expecting it.

Decentralization of decisions and of responsibility was also important, including:

- Micro-banking was a separate unit within BRI; that made it possible for the micro-lending staff to demonstrate that micro-loans could be profitable.
- Each of the 3,700 bank offices handling micro-finance was a separate profit center. Bank officers' performance was evaluated on the basis of that unit's record.
- Below the bank offices there were cash posts, part-time and mobile BRI officers. Banking was therefore convenient for much of the rural population.
- Loan decisions were delegated to the local offices up to Rp. 25 million [$2,500-10,000]. This put responsibility on those with the best information and worked well when combined with monitoring and incentives administered centrally, and an interest rates that eliminated rents.

Each unit also was able to take deposits which:

- Responded to the need for liquidity of the poorer groups and smaller firms, especially rural families and businesses. They hold large amounts of cash after the harvest and BRI provided safe and liquid accounts to park these funds;
- Encouraged savings and made rural savings available to other parts of the economy;
- Signaled that it was a commercial operation that expected to be paid back the loans it made.

Flexibility, lending to individuals and for any purpose, population density and rapid growth:

- BRI was flexible on repayment periods, size of installments, and collateral so that loans could be adjusted to the requirements of different businesses and families.
- Borrowing was by individuals, not by compulsory groups as for the other well-known success in Asian micro-lending, Grameen Bank of Bangladesh. The individual approach had the disadvantage of lessening peer pressure for repayment. But it had major advantages: borrowers did not have to find others to form a borrowing group and the individual did not lose access to credit because another group member defaulted.
- BRI did not limit the purposes for which it lent, recognizing that policing a no-consumer-loans policy was almost impossible and not necessarily a good idea.
- The population density of Java and Bali, where the bulk of the activities occurred, reduced the cost of operation. The growth of the economy at 7% over 30 years meant that rising incomes were the norm, making it easier to repay. Even when income declined in 1997/99 repayment was still at a remarkable 97% for micro-loans[152] because the tradition of fully servicing one's loans had been well established.
- BRI accepted that what mattered for efficiency was the availability of credit to the agricultural and rural business system, not to particular groups such as farmers, because

different groups extended credit to each other: the distributor of fertilizer to the buyer of fertilizer; buyers of agricultural products to the cultivators from whom they buy. Suppliers of cloth and dyes and purchasers of clothing extend credit to home sewers and village dyeing units.

Limits and Weaknesses of BRI Micro-Credit

While it is not crucial for efficiency which player receives the loan, it does matter for equity whether loans are received by the poor, or by those to whom they sell or from whom they buy. BRI lends relatively little to the truly poor. Only 15% of the loans were for amounts below $226, the size usually extended to the poor.[153] Regular borrowers from the BRI micro-banking system had incomes three to four times those borrowing principally from moneylenders, friends and relatives or a village bank. BRI borrowers even had higher incomes than those borrowing from other formal banks.[154] BRI also has few borrowers who are women, widowed, older or with little education, unlike institutions like the Grameen bank in Bangladesh which provide most of their loans to the poor and other disadvantaged groups like women.

The Impact of BRI Micro-Credit on the Poor

As best one can tell from the limited evidence available the near-poor who received most of the loans improved their economic situation.[*] Those that had borrowed for 3 successive years increased profits about 25%, because they could keep larger inventories and produce at a higher rate, with fewer stoppages caused by inadequate cash flow. Their household income increased 21%, as compared to 4% for the average person in the rural areas. Employment by borrowers increased by 22.5% in terms of labor hours, with both family and hired workers benefiting. But even these successful enterprises increased employment only by a bit more than 1% a year. Since the output of successful borrowers rose more than employment their labor productivity increased substantially. As a result of the improved economic performance of borrowers from BRI:

- The likelihood that borrowers' families would fall into poverty decreased. Most BRI Micro-borrowers were near-poor.[155] Expanding their sales made it less likely that they would fall below the poverty line in the next downturn of the economy or of their region, or of personal misfortune.
- Excess labor on family farms and in family businesses was absorbed. There is widespread disguised unemployment or underemployment in the informal, or work- and income-sharing, sectors. This underemployed labor is ready to move into the formal sector of the

[*] The data do not permit conclusions on the income of borrowers. All that is known are the facts previously cited: that their income was triple that of those who did not borrow from BRI, but who borrowed from moneylenders, relatives and friends. Therefore BRI borrowers were almost certainly not in the poorest 20% and probably not in the poorest 30%. But one can infer that they were also not in the top 40% in income/ expenditures from the fact that they borrowed from the Micro-lending window not the SME window. A guess might be that BRI micro-credit borrowers are in the range of 30-60% from the bottom. That is why they are called the "near-poor".

economy if jobs are available at an attractive wage compared to sharing in the income from the family farm or business.[156] Therefore increased output for family enterprises resulting from BRI loans reduces the number of workers competing in the labor market by raising the reservation wage of family members in the enterprise. That pushes up the real wage of the poor competing for new jobs.

- Hiring more labor, both part- and full-time, even if the total number is small, also helps push up wages and therefore the income of the poor. However this increase would be quite small.[157]
- Increasing demand for labor as a result of increased demand for goods and services from families with increased income, as a result of loans from BRI.

Clearly BRI micro-credit had an indirect and very small effect on income and employment of the poor. Moreover this successful micro-credit program could not counteract the effects of macro-economic changes on small firms. During the Crisis the number of small and household firms declined sharply, as did the employment they provided [Table 10] and their output. Access to credit might have saved some that went out of business, but it was not the crucial determinant of success or failure: the lack of demand in a shrinking economy overwhelmed other factors.

Summing Up: Lessons from BRI Micro-Banking

- *There is a great unmet demand for highly liquid small savings deposits.* Even at low, or zero, real interest rates the rural population wants a safe, accessible and liquid savings-deposit facility. As a result BRI was able to accumulate small savings deposits totaling a large 3% of GDP.
- *There is an almost equally great unmet need for micro-loans with various maturity dates.* In 2002 outstanding loans were $1.3 billion, or 1% of GDP.
- *Borrowers are willing to pay interest rates that cover the costs of small loans and generate a profit.* With micro-credit self-supporting and profitable it could expand even when the budget was tight. Interest rates were below those of the moneylenders, but sufficiently high and the loans sufficiently small, so the program never became a patronage vehicle.
- *Repayment rates of 98% or better were maintained over 20 years.* In this respect too the micro-credit program was operated commercially, not as a charity or government grant program.
- *Decentralization of decisions, incentives for managers throughout the system and clear assignment of responsibility were essential to commercial success.*
- *The rural deposit and micro-lending programs made a useful, but small, contribution to poverty reduction.* Data are not adequate for definitive or quantitative conclusions on its contribution. Only a small proportion of loans went to the poor. But BRI loans kept many near-poor from slipping below the poverty line periodically, created a limited number of jobs and kept some family workers out of the job market. The program contributed to a buoyant rural economy that benefited the poor.
- *There is considerable potential for further expansion of micro-credit in Indonesia.*

In short, the BRI micro- and rural-banking program was a success and contributed to the growth of small enterprises and agriculture. But it did not have a major, measurable effect on poverty.

ENDNOTES

[1] Booth 2003.

[2] Rubber exports declined from an average of nearly 800,000 metric tons in 1951/52 to less than 600,000 metric tons in 1960. See Glassburner, papers by Mackie and by Glassburner. Also Arndt. Population from World Bank 1971 b and van der Eng. Private were: smallholder agriculture, retail trade and small service establishments. Van der Eng, in the only detailed long-term series has per capita income in 1959-61 at 14% below 1928-30 [both 3-year averages].

[3] See Arndt. Agricultural GDP declined -0.7 and industrial GDP by –0.4 % per annum. Income from services was estimated to rise by 0.9% per capita. That supposedly compensated for the decline in the goods-producing sectors, resulting in a virtual stagnation of GDP. When per capita income in the productive sectors declined it is very unlikely that income from Services rose in a low income country like Indonesia.

[4] World Bank 1971 shows the share of construction in GDP declining from 3.5% to 2.6% while GDP per capita stagnated. For discussion of street occupations see: Papanek and Kontjorojakti 1975. Clifford Geertz described the social system for work- and income sharing in Java and Bali, called "agricultural involution", in several publications. A theoretical economic model is in Papanek and Manove

[5] Between 1960 and 1965 Value Added in Non-Food agriculture, a substantial proportion contribution by the tree crops, declined by 1.8% a year [Booth and McCawley]. The $ value of rubber exports declined by one-third from 1960 to 1965 [Dapice in Papanek 1980]. Recorded rubber exports declined from 790,000 metric tons in 1951 and 1952 to only 580,000 in 1960. They recovered to 680,000 by 1966, still an almost 15% decline, despite a rising population [Ibid and BPS 1968]. {Mackie and Pelzer in Glassburner; BPS 1968}. Facts not supported by citation are generally from personal knowledge as a result of work in Indonesia at the time; e.g., the official and Hong Kong exchange rate; civil servants' pay; credit policies. Others from later work; e.g., controlled prices for batik cloth from Papanek 2003a.

[6] Investment declined from a rate of 10% of GDP to 7% [BPS 1997]. From 1961 to 1965 the money supply increased nearly 40 fold. During one quarter the rate of inflation reached 1,000% at an annual rate. In 1965 a new Rupiah was introduced at one-thousandth the previous value. In the next two years the money supply again increased five-fold.

[7] Papanek 1980.

[8] See Papanek 1980 and 1989 for a discussion of the impact of inflation and lagging wages. Data are usually averages of several years to reduce the impact of statistical vagaries. Data mostly from BPS 1997.

[9] The wage increase was an even larger 156% for all large/ medium-sized industrial firms. But these are wages for all workers, including skilled, technical and clerical and were affected by changes in labor-force composition.

[10] Discussion of the economic history from 1962 to the mid-1970s draws on personal experience where not otherwise credited. This included residence in Jakarta 1970-73 working with the Government and visits in other years.

[11] The Soekarno government had received aid from some Communist countries. After its overthrow the Government's hostility to those countries, and especially China, ended that source of loans. On the other hand the West was eager to support the new, anti-Communist government and would probably have done so initially even if the Berkeley Mafia had not been influential and economic management had been less effective. But the Government thought it needed Western-trained economists to give it credibility.

[12] General, later President, Soeharto was the key government/ military figure; the economists were led by Professor Widjojo. The foreign donors, initially the Ford Foundation, strengthened the hands of the Berkeley Mafia by providing resident economic advisers. The Foundation [and later AID] gave the advisers a relatively free hand with little attention to the ideological predilections of the donors or their short-term interests. As a result it was easier to develop the crucial trust between Indonesian and foreign economists needed for an effective working relationship.

[13] In 1965 the official exchange rate was Rp. 252/$; the effective export rate, taking account of subsidies, was Rp. 2,683/$, while the open market exchange rate was Rp. 14,083/$ [Woo, Glassburner, Nasution].

[14] By 1965 exports and imports were only 4% of GDP compared to 13% and 22% in 1966. Part of the reported decline was, real but much of it reflected an increase in smuggling.

[15] The system was very similar to the "Export Bonus Voucher Scheme" that Pakistan used in the 1960s and that also produced a remarkable growth in labor-intensive manufactured exports in response to a higher effective exchange rate.

[16] Hill 1996.

[17] Author's recollection.

[18] Widely known as the "Sumarlin shock" for the minister who was credited or blamed. See Booth 1992.

[19] For data see World Bank 1971, 1972, 1975, 1982.

[20] Data in this section from BPS 1997. See Table A.1.

[21] Oil exports had been $0.9 billion in 1972 and shot up to $5.2 billion in 1974 and to $7.3 billion in 1977.

[22] See Hill 1996 and Booth 1992 for more discussion of the terms of trade, oil revenue and economic policy during this period.

[23] A typical example was a monopoly on import of tinplate which prevented the growth of exports of canned fruits.

[24] See Ramli [1992] for the argument that on balance these were worthwhile because they limited the effect of Dutch disease on Indonesia's industrial and agricultural production. "Dutch Disease", so named because it was analyzed in connection with Holland/ Netherlands and its problems due to massive exports of natural gas. It occurs when a country has a sharp rise in its revenue from exports of its natural resources. Large amounts of foreign currency flow in and the economy booms. Wages and prices rise. The production of exports and of goods competing with imports [tradeables] becomes unprofitable and declines. When the resource is depleted or its price drops, the country faces a crisis since it no longer produces much else. Even before then the natural resource export may not generate many jobs if it is produced with little labor. The windfall can then lead to increasing income inequality as those in, say, the oil sector benefit, while those losing their jobs in industry or agriculture are actually worse off.

[25] E.g., Afiff, Falcon and Timmer; Timmer 1993; Timmer et al. 1992.

[26] Cf. work by Timmer [2003] and colleagues.

[27] Large farms can more easily bear the risk and face the uncertainty of these innovations. They can hire their own specialists; small-holders need to rely on the weak government research and extension facilities. Commercial farms can develop their own marketing channels for crops other than rice and can access the technical information needed to grow them; small-holders again need to rely on government or the government sponsored cooperative system, which is often ineffectual. Dealing with supermarkets is especially difficult for small-holders. They require an intermediary to assemble large enough quantities of crops, assure quality and guarantee delivery. Unless an efficient and competitive system of intermediaries develops between small-holders and supermarkets the increasing importance of supermarkets in Indonesia will worsen the competitive position of the smallholders and will make it more difficult for them to shift from producing staples to producing higher value fruits, vegetables, livestock products or fish.

[28] E.g., shrimp and tropical fish, spices and such "tree crop" products as tea, rubber, palm oil and coconut oil.

[29] In 1982, for instance, all of agriculture was one-quarter of GDP. But two-thirds of agriculture, or 17% of GDP, was contributed by food-crops and only 8% of GDP by the rest of agriculture. Non-food agriculture, forestry and fisheries therefore contributed only 5% to growth in 1986-97 [Table 3].

[30] Estimates of contribution to growth are again based on the same crude and rough calculations as before. For 1981-97 the direct contribution on average is about: 32% for manufacturing; 6% for mining and 10% for construction = 48%. The contribution of trade, services and electricity/transport/ communications total 45%. Assuming that demand for trade, services, transport and electricity is generated in proportion to the contribution of each directly productive sector to GDP. Directly productive: Agriculture: 7%, manufacturing 48% = 55% of which manufacturing, construction, mining is 48/55 nearly 87%. Thus .54*.87=30% direct contribution to GDP of 48% plus indirect of 30% = 78%. These are clearly very crude estimated. Using an Input-Output table more refined estimates would be possible. But for purposes of order of magnitude estimates, supporting the conclusion that agriculture played the lead role initially and industry subsequently these crude estimates should serve. During the period 1997-99 growth was negative, but the shares in the decline were similar to shares in growth. During the 1999-1002 recovery manufacturing, construction and mining again accounted for 44% of growth directly, agriculture for 6.5%.

[31] The oil price fell from $34 per barrel in 1981-3 to $12 in 1986/7.

[32] It was Rp. 644/$ in 1981 and Rp. 1650/$ in 1987. Note that calculating the devaluation by the "IMF method", which measures the change in the dollar per Rp. the devaluation, is smaller: 28% and 31%. The devaluation was greater than the comparison with the dollar would indicate, since the dollar itself lost value

against other major currencies.

[33] For details see World Bank, 1989.

[34] For instance, it became possible for canned goods exporters to import the steel needed to produce cans.

[35] BPS and Bank Indonesia numbers differ. Moreover in some years there is a large "unclassified" item in the data, which is mostly manufactures and which here has been assumed to be all manufactures. Some exports are not captured in the trade statistics used here. But orders of magnitude are not in question.

[36] These numbers are for large- and medium-scale firms only [BPS 2002]. Adding small and household firms would increase these numbers by 10% at most, based on 1997 statistics, so to $50 billion. Value of Gross Output was Rp. 11.7 trillion in 1983 and Rp. 264.3 trillion in 1997. For the exchange rate see Table A. 4.

[37] A fully compensated devaluation is one in which the change in the exchange rate only raises the domestic price of non-traditional exports [generally those which the country has long exported and where is has a well-established comparative advantage] and of non-essential imports [generally luxury and semi-luxury goods]. The price of imports is be stabilized by reducing import duties by the same percentage as the devaluation, so the domestic price remains unchanged. If the tariff can not be reduced commensurately then it would require a subsidy to keep the price stable. An export tax on traditional exports would stabilize their prices.

[38] Average of Java and outside Java for rice from 9 Basic Commodities [BPS].

[39] Between 1981 and 1987 the domestic price doubled, while the dollar increased 2.6 times in Rupiah terms Most of the rice price increase occurred in 19986/7 when BULOG temporarily lost control of the market, in part because world prices rose. Most these and other data from Booth 1992.

[40] World Bank 1989.

[41] Characteristic of that period is the story of a small group of 3 or 4 economists going into the nearby mountains with a typewriter and over a weekend typing out the initial reform decrees, establishing a new open-market exchange rate for most exports and all but "essential" imports. They obtained the President's signature; a decree was issued and within a few days from the time they had started they had changed a major part of the economic system.

[42] In some countries the period of austerity and self-denial by the ruling family lasted only months at best.

[43] Of course they then worked at their government job for only a few hours a day, which meant cheating the government, but at least it avoided preying on the public as corruption does. Monthly cash salaries for senior officials were barely enough to buy food for one week. Rice rations tended to cover another week. For the remaining 2 weeks officials had to find other sources: second and third jobs; family income from land or business; per diems from trips abroad that were saved and converted in the grey market; or corruption of various kinds. Several Ministers in the Berkeley Mafia were known to make do because their wives kept chickens and sold eggs.

[44] In the 1970s a group of economic technocrats was in charge of ministries dealing with the economy, including Transport and Communications, Mining—which included Oil—, as well as Finance and Planning. In the most recent period economists were in charge only of Finance and Economic Coordination, and Agriculture.

[45] See Table 10. Pakistan, China and India were within 10% of Indonesia,

[46] Numbers are highly controversial and inexact. The economically active were 40 million. Estimates of the numbers killed in 1965–1967 range from 0.5-2 million. The numbers in other categories are even more uncertain. However, the deaths of that period are one of the reasons why the population growth rate for the 1960s is 2.1% and 2.4% for the 1970s.

[47] See Hart for a discussion of the low productivity activities that the rural poor are forced to undertake to support their families.

[48] The lower the Gini or Gini coefficient the more equal the distribution. A Gini of 0.0 denotes perfect equality with everyone having the same income or expenditure; with a Gini of 1.0 one person or family has all the income/expenditure, and others have nothing.

[49] If one compares the low point of in the share of the poorest 40% of 20% in 1978 with the high point of 25% in 1993 the increase is actually 25%. But from 21% in 1976 to 24% in 1987 the increase was 15%. The Gini coefficient declined from 0.34 to 0.38 to one of 0.25 to 0.26, a very remarkable improvement in equality. It is not clear whether and to what extent these changes are statistical artifact and to what extent they are real. [Table A.1]. The data for 1970 are not fully comparable with later data.

[50] Tables 7 and 2. Per capita income declined by less than 1% a year, while wages declined about 7% a year.

[51] GDP per capita declined about 16% over 2 years. Since the food or rural price deflators are more nearly

appropriate for the poor than the general urban deflator [Appendix B] the true blow to the poor is closer to 25-30% than 19%.

52 Inflation, measured by the food component was 40% from 1972 to 1974; oil revenue increased ten-fold from 1970 to 1974 in US$. In the 3 years 1972-1974 the average rate of inflation was a high 28%.

53 Details and data on this period and the argument see Table 2, Dapice, Ch. 1; Papanek 1980 and Papanek and Kontjorojakti.

54 The food component of the CPI rose more than 10% a year. Real wages of workers in agriculture and manufacturing declined by 15-20% when deflated by that index. [Appendix B on why food index is more appropriate].

55 The most widely publicized were with the judicial system [Newspaper reports; corruption watch reports].

56 See Tables A.1 and 6-8. The expenditure measure declined less than the income measure, as the poor engaged in "consumption smoothing" or "expenditure maintenance": drawing on savings, borrowing from friends and relatives, depleting stocks and selling assets in order to maintain their consumption. Income measures, such as real wages, reflect better how badly the poor were affected by the Crisis over a 2-3 year span. If the poor draw down stocks or borrow they can maintain expenditures , but their welfare is clearly affected as their wealth declines. While various data sources are not fully consistent, there is absolutely no doubt about the sharp decline in the well-being of the poor from 1996/7 to 1998 and early 1999 and the equally sharp improvement to 2000.

57 Suryahadi, Sumarto andPritchett 2003.

58 Between 1996 and 1999 food prices increased 2.6-fold; housing, education, transport only 1.7-fold. [World Bank 2001].

59 See Table 11 and the discussion of regional differences below.

60 Molyneaux 2003. See this memo for an analysis of various poverty measures and a justification for using SSR as an alternative.

61 An increase in the SSR, of course, indicated a worsening of welfare.

62 Food Policy Support Activity/USAID 2003.

63 See Atmarita, et. al. 2003

64 *Ibid.*

65 Ray 2003.

66 See World Bank 2003a and especially 2003b.

67 See IMF 2003 and some of the references; for a more critical view see Stiglitz's references to Indonesia and Ramli 2002 and 2003.

68 Among President Habibie's major reforms were freedom of the press/ media; an end to the war in East Timor; presiding over the first free election since 1955 and accepting the end of his Presidency as a result. Abdurrahman Wahid [Gus Dur] who succeeded him limited the power of the Army and `of the Islamists; further increased the role of civil society and the press. Both carried out a massive decentralization program.

69 See World Bank 2003b for more detail on obstacles to investment and their consequences.

70 Hill 1996.

71 World Bank 2003a and Bank Indonesia, 2003 [Sept].

72 Some Provinces, such as North Sulawesi and parts of Sumatra established or greatly expanded direct trade and transport links with Singapore and Malaysia for goods and people that had previously gone through Jakarta or Surabaya.

73 Some studies analyze changes in the legal minimum wage. But that wage is irrelevant if it is not enforced, or if actual wages are higher, so minimum wages may not be a useful basis for comparison over different years.

74 SMERU 2001 concludes that the minimum wage is increasingly binding since 2000 and pushed up the average wage.

75 Real Rupiah wages for large/medium industrial firms, agricultural workers and household servants generally moved in parallel from 1997 to 2000, first falling about 40% from high to low, and then increasing by about 15% to the beginning of 2000. After 2000 minimum wage rules pushed up the wages of workers in organized industry by about 50% to 2003, while those in the informal sector barely increased. From BPS 2003 a.

76 World Bank 2003b & James, Ray & Minor.

77 Machines; electrical and electronic goods; textiles and textile products [garments]; wood products, mostly

plywood and furniture

[78] From Bank Indonesia [BI] 2000 & 2003. These data differ from BPS data, but show the same trends. BI data are used because they are more up-to-date.

[79] BPS 2003a [Uncorrected version]

[80] See Suryahadi, Sumarto and Pritchett; and SMERU, 2001.

[81] Assumptions include: that what matters for employment in export [and import-competing] industries is a weighted average of the nominal wage in Dollars, Yen and other relevant foreign currencies and that the elasticities in the SMERU paper apply to $/Y wages. The latter not accurate since the article makes its calculations based on real Rupiah, but not unreasonable since the two move together.

[82] On the reasonable assumption that the "less educated" workers defines as well those who are unskilled and poor.

[83] Manning 2003, citing work by the Manpower Bureau in Bappenas gives about 5 million workers in large and medium-sized manufacturing. His paper estimates that nearly half-a-million jobs were lost on a net basis as a result of higher wages in the entire "modern sector". Economic growth of 3.5% for the economy as a whole was estimated to create less than 0.4 million "modern" jobs while the increase in the minimum wage resulted in a loss of 0.85 million jobs.

[84] Table 6. In 1996 the incidence was slightly lower at 17.6%, but the difference is not significant and well within the margin of error. Comparing 2002 with 1997, however, poverty has increased significantly, from 14.7% to 18.2%. 1997 data are not strictly comparable with 2002, because of differences in sample and methodology. The poverty incidence for 2001 is more strictly comparable with 1997, but at 11.7% it is hard to believe. Since samples are comparable every 3 years, the comparison of 1996, 1999 and 2002 is the most reliable.

[85] Suryahadi, Sumarto and Pritchett, 2003.

[86] To 73.9% in the rural areas, an increase of only 1% and to 69.1 in the urban areas, an increase of less than 4%. Both were small compared to the decline in per capita income of 14% and the decline of 20-30% in the expenditures and real wages of the poor [Tables 7 and 8].

[87] Data from Molyneaux, Rosner, et al.

[88] As a result primarily of the tariff the rate of inflation in food prices rose from zero in 1999/2000 to 12.5% in 2001/2002.

[89] Data on expenditures are drawn from the SUSENAS surveys of various years; they are usually identified as reflecting expenditures. But since they also include food and other goods both produced and consumed by the family [e.g., fuel; mud-bricks; tobacco] for which they do not pay, the data are more nearly akin to consumption.

[90] Actually the high point was reached in 1999, when both rural and urban expenditures for the poorest 40% reached a level not attained before or since. Since the country was just coming out of the Crisis in 1999 this result is implausible and can be taken as reflecting the weaknesses of the price deflators and the incomparability of the survey done every third year with those surveys done in the in-between years.

[91] Yet other deflators yield different results and different conclusions. The rural CPI is closer to the Urban Food CPI than the Urban General CPI and so is the index of the 9 Basic commodities. Ideally the nominal data should be deflated by a separate CPI for the rural poor and for the urban poor, using their consumption baskets and separate prices.

[92] It is fortunate that Indonesia, unlike most countries, has data on small and household units. Some analysts, faced with the puzzle that poverty is sharply down while output has not grown sufficiently to explain it, have assumed that underestimation of growth in the small and household sector holds the explanation. They cite anecdotal evidence that this sector, fueled by an expansion of micro-credit and credit for SME, has developed a new dynamism. But data as of 2001 do not support this conjecture.

[93] See Table 3 for the rate of growth in value added in agriculture and Table 11 for employment data.

[94] Can be defined as willing to work more hours or days than they are working at the same wage. Some 34 million were working less than 35 hours a week or about 40% of those whose hours are known [Table A.3]. There is no clear trend in part-time work over the years from 1989 to 2002. The number who wanted to work less than 35 hours is not known.

[95] The Provincial GRDP is barely up by 4% from 1997 to 2000, despite a boom in export crop prices.

[96] NOTE that these are both unweighted averages. It would be more accurate to weight Provincial wages by the population in agriculture, for instance. For all-Indonesia data Java is weighted at 60%, non-Java at 40%.

[97] These are year-on-year comparisons, which hide the true decline since the top was reached in the first half

of 1997, while the bottom was in late 1998–early 1999. From the top to the bottom the decline in Java was 40%.

[98] E.g., North Sulawesi, a major producer of traded agricultural goods, including coffee, cocoa, pepper, coconut products and cloves.

[99] See Montgomery, Sumarto et al.

[100] When rice prices rise there is usually some increase in demand for labor from surplus farmers, which would tend to push up wages. But this effect was simply swamped by the cost to workers and deficit farmers of rising food costs. In areas producing export crops higher prices for those crops unambiguously benefit both landowners and agricultural workers. There is an increase in the demand for labor with no offsetting increase in the cost of food.

[101] Balisacan, Pernia and Asra. Their analysis is based on sub-Provincial Districts and deals with the poorest 20%, rather than the poorest 40%, the category referred to in the tables in this paper. The difference is that the poorest 20% have a much higher proportion of families that have no member in the labor force and that therefore are less benefited by increases in the demand for labor.

[102] Central Java, Lampung, West- and East Nusa Tengara, all with above average rates of poverty incidence and agricultural wages in 2003 well below what they were in 1996, have set their minimum wage at Rp. 310-330,000 a month while East and West Java were at Rp. 245,000 and 281,000 respectively in 2002.

[103] Acharya and Papanek and Papanek 1989.

[104] When a double log specification is used, so the elasticity is given by the coefficient.

[105] Reference is to East and Central Java combined.

[106] Of course increasing the price causes a reduction in demand and imports. But that is not the original causal variable.

[107] Regressions for West Java often show no relationship between changes in agricultural production and the wage, most probably because changes in industrial and other non-agricultural demand for labor greatly influenced agricultural wages in that Province, with the highest concentration of industry, trade, services and government in Indonesia.

[108] Again West Java is the exception, probably for the reasons discussed earlier.

[109] The rate of divorce is 50% of the marriage rate, high for any country and extraordinary for a Muslim country (see Papanek [Hanna], Ihromi and Rahardjo).

[110] See Kathryn Robinson for a summary.

[111] Even the huge compilation by the ADB of poverty data [ADB 2000] has no information.

[112] Unpublished work by Kai Kaiser which ends with 1999.

[113] Payment for plowing was included under hoeing in some cases, and often included payment for the plow and the bullocks used.

[114] BPS 2003a.

[115] Data for 2003 from BPS 2003a.

[116]. See Patten, Dapice and Falcon for analysis of the early program.

[117] See the regression analysis discussed earlier; Patten, Dapice, Falcon and extensive follow-up articles in the BIES.

[118] Pritchett, Sumarto, Suryahadi

[119] This includes the expenditure on local materials like rocks and aggregate, which are essentially embodied labor.

[120] Some of the wages to the initial recipient were not used for donated food, but on other goods produced domestically. Part of that increased income to others in Indonesia in turn would be spent on food. See Patten, Dapice B., and Falcon. Also: the price of rice continued to rise either parallel with the CPI or more rapidly, indicating that it was not reduced significantly by these imports [BPS 2002].

[121] From Woodhouse's [2001] analysis of KDP.

[122] Similar arrangements are in effect for the urban counterpart, the Urban Poverty Program [UPP]. In Indonesian the KDP is referred to as PPK.

[123] Woodhouse.

[124] From an average of Rp. 43 billion in 1970/1-1973/4 to Rp. 256 billion in '74/5-'78/9 and Rp. 1,486 billion in 1982/3 [World Bank 1982]. In real terms this meant something like a quadrupling, followed by another quadrupling. More details on the program are available from the author.

[125] From Rp. 1.1 trillion in 1987/8 to Rp. 4.1 trillion in 1992/3 [World Bank 1993]. The latter was roughly equivalent to $2 billion or 1.5% of GDP.

[126] PPK 2000.
[127] World Bank 1993.
[128] This assumes that the programs have little cost in terms of alternative use of resources. This is a reasonable assumption for its early life and then again during the Crisis, when nearly all funding came from aid sources and would not have been available for other projects. During its middle period the Government provided substantial funding. But since the estimate does not take account of indirect benefits the assumption may still serve for a rough order of magnitude estimate of benefits. See table 12 which shows 54% of the benefits reaching the poorest 40% when the program had little self-targeting during the Crisis. Therefore the assumption that 60% of benefits reached the poor earlier, when self-targeting was more effective, is a conservative assumption.
[129] Woodhouse
[130] Data largely from Daly and Fane, often summarizing Sumarto, Suryahadi, Widyanti, or from the latter unless noted.
[131] E.g.: do all household members eat at least twice a day; do they have different sets of clothing for home, work and visits; floor of house not of dirt; able to get modern medical assistance; able to practice religion.
[132] All targeting data from Sumarto, Suryhadi, and Widyanti [2001]. Summarized in Daly and Fane.
[133] 57% of the families classified as "Pre-prosperous", the lowest classification, are also classified as "poor" in terms of income [See Daly and Fane] while 43% were not poor in income. Some discrepancy is understandable. For instance, a family may have a house, built at an earlier time or inherited, that puts it in the non-poor category, but its current income may cause it to be classified as poor, and vice versa.
[134] See especially Olken et.al. for the pressures to spread subsidized rice beyond the poorest. Also Sumarto et.al.
[135] Compare this to 4-6% for targeted programs in Sri Lanka at their maximum and 1.5 for labor-intensive works alone in Indonesia at their maximum.
[136] See e.g., Papanek 2003b.
[137] Total SSN expenditure in the 1999/00 was 1.23% of GDP and in 2000 it was 1.05% [Daly and Fane].
[138] Most of the material on informal credit is from Partadireja.
[139] See: Mears and Afiff; Cole and Slade. ". . . the Indonesian government is in favor of a cheap credit policy …". The rate on the main government credit program [KIK] was 12% per annum when the money lender rates were 150% to 1,000% [Cole and Slade]. From Cole and Slade [p 87] "There was no effective system for collecting payments from the farmers for such costs, so the so-called "credit" was simply a cash payment funded by Bank Indonesia".
[140] Parhusip and Seibel, in Remenyi and Quinones
[141] Non-performing loans averaged 75% and were as high as 85% at some banks [Hill 1999].
[142] Documented in Papanek 2003a.
[143] The first push was under the auspices of the Minister of Cooperatives and Small Enterprises, Adi Sasono. His political party in the 1999 elections showcased his support of small and *pribumi* enterprises. See Hill 1999.
[144] Nominal interest was 32%, with inflation about 10%; all from M. Robinson 2002. More recent data are from Patten et al.
[145] In the 1990s priority was also to support Muslim-owned enterprises after the Government played the religious card
[146] Minimum was Rp. 25,000 and maximum Rp. 25 million since 1990. Their dollar equivalent has varied greatly with the exchange rate from a minimum of $3 to $13 to a maximum of $3,000 to $13,500. Since all of the BRI transactions are in Rupiah [Rp.] comparisons are given in that currency.
[147] Because the Rupiah depreciated to nearly one quarter during the time period in dollar terms there was no change in the amount of loans. As a percent of National Income there was also no change. Data from Patten et.al.
[148] Private communication from BRI adviser.
[149] "Most of the [BRI] corporate portfolio has been written off and transferred to the Asset Management Unit of IBRA", Patten et.al. At the worst point of the Crisis BRI's branch system lost the equivalent of $3.3 billion, mostly on Corporate loans, while the "village unit" system of rural credit showed a small profit. In the pre-Crisis years of 1995 and 1996 the rural credit system had profits of about $175 million while the rest of the Bank lost about $50 million.
[150] Interviews with Bank NISP and others. "Small-Scale Business Credits" from commercial banks for

investment and working capital almost doubled from its low point in 1999 to 2002, reflecting the increased willingness to lend to these enterprises. Credit in general increased by 66% during this period [Bank Indonesia].

[151] Boomgard and Angell

[152] Patten et al.

[153] See Morduch; Boomgard and Angell; and Robinson.

[154] All from Bank Rakyat Indonesia [BRI] and Harvard.

[155] Their income averaged about Rp. 300,000 per capita per month, equivalent to about $30 if the data refer to 2000/2001, or just on the international poverty line of $1 a day.

[156] See Papanek 1986 and 1987 for more on this mechanism.

[157] Each borrower increased employment by 0.2 workers over the last 4 years or 0.4 workers over the last 16 years, an average of 0.3 workers over 10 years = 0.03 workers a year. With 2.7 million borrowers cumulatively that would equal only 8,000 workers a year hired. While these calculations depend on some arbitrary assumptions they make clear why the most recent study calls the employment effects quite minor. In a country that has 2-3 million entering the labor force every year employment for 8,000 is indeed a negligible number.

ANNEX A

SUPPLEMENTARY TABLES

Table A.1: Income Distribution and the Share of the Poor in National Income, 1964/5–2002

Year	Gini			Percentage of National Income Shared by Poorest 40%		
	Urban	Rural	National	Urban	Rural	National
1964-65	0.34	0.35	0.35			
1970	0.33	0.34	0.35	19.5	19.6	18.6
1975						
1976	0.35	0.31	0.34	19.6	21.2	19.6
1977						
1978	0.38	0.34	0.38	17.4	19.9	18.1
1979						
1980	0.36	0.31	0.34	18.7	21.2	19.6
1981	0.33	0.29	0.33	20.8	22.8	20.4
1982						
1983						
1984	0.32	0.28	0.33	20.6	22.3	20.8
1985						
1986						
1987	0.32	0.26	0.32	21.5	24.3	20.9
1988						
1989						
1990	0.34	0.25	0.32	19.7	24.4	21.3
1991						
1992						
1993	0.33	0.26	0.34	20.5	25.1	20.3
1994						
1995						
1996	0.36	0.27	0.36	19.0	23.2	20.3
1997						
1998						
1999	0.32	0.24	0.31	21.5	25.0	21.7
2000						
2001						
2002	0.33	0.25	0.33	20.3	25.8	20.9

Source: For 1978-90: BPS 1992; 1996-2002: BPS 2002a; 1993 unpublished from BPS; 1969/70 from Asra,

Table A.2.a: Factors Affecting Agricultural Wages, Selected Periods

1977-2002 Annual	Indonesia	Change in Agriculture Wages	-29.65 (-2.12)	4.08 (2.93)*	1.26 (3.06)*	0.81 (3.02)*						0.38	4.56	2.14
1994.1-1998.4 Quar-terly	West Java	Agriculture Wages	-0.280 (-0.75)		0.58 (7.17)*	0.15 (0.83)	-0.08 (-0.42)			0.68 (7.06)*		0.99	262.6	1.51
	Central Java		-2.76 (-2.95)		0.80 (3.61)*	-0.50 (-0.97)	0.64 (1.4)			0.90 (3.93)*		0.95	61.54	1.37
	East Java		-4.76 (-12.79)		0.78 (13.06)*	0.16 (1.24)	0.20 (1.77)***			1.09 (15.64)*		0.99	774.88	1.59
1976-1987 Annual	Java	Agriculture Wages	-55.45 (-3.9)*		0.75 (9.4)*	0.24 (3.1)*		5.64 (4.0)*			0.12 (-2.5)**	0.98		2.20
			-33.36 (-3.0)*		0.64 (8.0)*	0.14 (1.8)***		3.5 (3.0)*				0.92		1.72
			-73.28 (-3.1)*		0.65 (6.4)*	0.29 (3.0)*		5.89 (4.0)*	1.75 (1.1)		0.13 (-2.3)**	0.97		2.15

Notes: Figures in parentheses are t-ratios; * = significantly different from zero at 1% level; ** = significantly different from zero at 5% level; *** = significantly different from zero at 10% level; R^2 is adjusted R^2.
For the 1977-2002 regression: P_c is the rate of general inflation; P_{c-1} is the rate of general inflation with a 1 quarter lag; Pc-2 a two quarter lag.
For the 1976-1987 and for the 1994.1-1998.4 regressions: All values are in logarithms.
P_c = cost of living index; P_{c-1} = P_c lagged by one year. The CPI is for the same rural areas from which the wage data are collected.
Av Product (AP) = per capita value added in agriculture, i.e., total value added in agriculture (at constant prices) divided by the rural population.
AP_{-1} = AP lagged by one year.
The dependent variable is nominal wages.
Industrial wages are an average for the same Province.
All of the variables passed the test for stationarity at the 10% level of confidence.
Sources: For 1976-1987 from Papanek (1989). For 1994.1–1998.4 from Papanek (1999). For 1977–2002: Calculated for this paper. The inflation rates are taken from BPS 1997

Table A.2.b: Factors Affecting Agricultural Wages in Java, 1976–1987 (quarterly average for hoeing, transplanting, weeding)

	East Java	Central Java	West Java
Intercept	-2.76 (-2.06)	5.78 (3.26)	5.64 (4.27)
PRICE in CURRENT QUARTER	0.047 (1.07)	0.176 (1.58)	0.220 (2.14)**
1 QTR-LAG	0.250 (3.99)*	0.456 (3.71)*	0.318 (2.90)*
2 QTR-LAG	0.144 (2.24)**	0.280 (2.38)**	0.119 (1.05)
3 QTR-LAG	0.045 (0.69)	0.157 (1.36)	-0.143 (-1.50)
4 QTR-LAG	-0.041 (-0.64)	-0.114 (-0.93)	-0.033 (-0.29)
5 QTR-LAG	0.044 (0.70)	0.120 (1.00)	0.090 (0.71)
6 QTR-LAG	0.073 (1.12)	-0.035 (-0.28)	0.018 (0.16)
7 QTR-LAG	-0.011 (-0.19)	-0.202 (-1.71)***	0.061 (0.65)
VA-Agri-PCap	-0.351 (-1.77)***	0.175 (0.49)	-0.035 (-0.16)
VA-Agri-PCap-Lag	0.539 (2.95)*	-0.810 (-2.79)*	-0.217 (-0.97)
INPRES	0.151 (5.05)*	0.238 (5.59)*	-0.014 (-0.61)
NON-INPRES DEVELOP	0.079 (1.92)***	0.073 (1.07)	0.038 (1.18)
TIME	0.013 (3.44)*	0.014 (2.60)**	0.013 (2.44)**
PLANT	-0.307 (-65.33)*	-0.40 (-51.86)*	-0.478 (-99.08)*
WEED	-0.191 (-40.85)*	-0.316 (-41.03)*	-0.50 (-103.60)*
Adjusted R^2	0.998	0.996	0.998
F- statistic	4180	2220	3705

Notes: * = significantly different from zero at 1% level; ** = significantly different from zero at 5% level; *** = significantly different from zero at 10% level.
Except for dummy variables, all variables are in logarithms.
VA Agri P Cap is the real value added in agriculture per person in the agricultural labor force.
INPRES is the real expenditures on all INPRES (labor intensive public works program in the Province).
NON-INPRES DEVELOP is the real national expenditure on all development programs except for INPRES.
Deflators used were:
VA agric used the deflator for the agriculture component of Gross Domestic Regional Product (GDRP).
INPRES used the deflator for the Gross Domestic Regional Product for public administration and services.
NON-INPRES DEVELOP used the National Consumer Price Index (CPI) as deflator
WEED, PLANT are the dummy variables for weeding and planting. Hoeing is the third activity.
Source: Papanek (1999).

Table A.2.c: The Relationship of Agricultural Wages and Rural Prices in Java, 1976-1987 (quarterly: weeding, hoeing, transplanting combined)

	East Java	Central Java	East and Central Java	West Java
Intercept	-0.020 (-3.09)	-0.002 (-0.40)	-0.017 (-3.60)	0.010 (1.85)
CURRENT PRICE	0.190 (4.91)*	0.069 (2.90)*	0.119 (5.62)*	0.236 (4.85)*
1 QTR-LAG	0.251 (5.87)*	0.181 (5.80)*	0.221 (8.50)*	0.290 (5.79)*
2 QTR-LAG	0.264 (6.38)*	0.161 (5.00)*	0.220 (8.49)*	0.148 (2.91)*
3 QTR-LAG	0.208 (4.89)*	0.090 (2.70)**	0.158 (5.93)*	-0.109 (-2.22)**
4 QTR-LAG	0.104 (2.50)**	0.025 (0.79)	0.071 (2.72)**	-0.42 (-0.84)
5 QTR-LAG	0.154 (3.71)*	0.082 (2.67)**	0.119 (4.67)*	0.021 (0.41)
6 QTR-LAG	0.046 (1.06)	0.101 (3.19)*	0.085 (3.25)*	0.036 (0.70)
7 QTR-LAG	0.015 (0.33)	-0.001 (-0.02)	-0.002 (-0.09)	0.063 (1.22)
PRE APR 1983	0.027 (8.71)*	0.019 (6.22)*	0.025 (11.53)*	-0.000 (-0.28)
PLANT	-0.002 (-0.41)	-0.000 (-0.16)	-0.000 (-0.22)	0.000 (0.47)
WEED	-0.002 (-0.64)	-0.000 (-0.05)	-0.001 (-0.54)	-0.001 (-0.28)
EAST J			0.006 (3.27)*	
Adjusted R^2	0.606	0.378	0.500	0.386
F	15.08	7.58	20.90	7.80

Notes: * = significantly different from zero at 1% level; ** = significantly different from zero at 5% level; *** = significantly different from zero at 10% level.
Except for dummy variables, all other variables are in logs.
CURRENT PRICE is the price in current quarter.
1 QTR-LAG is prices lagged by one quarter.
2 QTR-LAG is prices lagged by two quarters and so on.
PRE APR 1983 is the dummy variable, distinguishing the period before April 1983 from the period after. !983 was a year of major policy changes
WEED, PLANT are the dummy variables for weeding and planting. Hoeing is the third activity.
EAST J is the dummy for East Java.
Source: Papanek (1999).

Table A.3: Underemployment by Sector and Hours Worked per Week
[millions of people]

	1989	1996	1997	1998	1999	2001	2002
Agricult., Forestry, Fisheries *[total]*	*41.1*	37.7	*35.8*	*39.4*	*38.4*	*39.7*	*40.6*
0-24 hours	12.9	15.0	13.8	14.1	13.3	13.2	13.3
25-34 hours	8.2	8.6	8.2	8.6	8.5	9.3	10.2
35+ hours	20.0	14.1	13.9	16.7	16.5	17.2	17.1
Manufacturing *[total]*	*6.5*	*10.8*	*11.2*	*9.9*	*11.5*	*12.1*	*12.1*
0-24 hours	1.0	1.7	1.7	1.5	1.5	1.1	1.1
25-34 hours	0.7	1.1	1.1	1.0	1.2	1.0	1.1
35+ hours	4.8	7.9	8.4	7.4	8.9	9.9	9.9
Construction *[total]*		*3.8*	*4.2*	*3.5*	*3.4*	*3.8*	*4.3*
0-24 hours	*for this year*	0.3	0.2	0.3	0.2	0.2	0.2
25-34 hours	*combined*	0.2	0.2	0.2	0.2	0.2	0.2
35+ hours	*in "Other"*	3.3	3.7	3.0	3.0	3.5	3.8
Trade & Services *[total]*	*22.5*	*27.8*	*29.9*	*29.2*	*29.8*	*28.5*	*28.2*
0-24 hours	2.4	4.0	4.3	4.0	4.0	3.3	3.1
25-34 hours	2.5	3.8	3.9	3.9	3.8	3.5	3.6
35+ hours	17.6	20.0	21.6	21.3	21.9	21.6	21.5
Other *[total]*	*3.8*	*5.6*	*5.9*	*5.6*	*5.8*	*6.7*	*6.5*
0-24 hours	0.9	0.4	0.4	0.4	0.4	0.4	0.3
25-34 hours	0.4	0.4	0.4	0.4	0.5	0.5	0.5
35+ hours	2.5	4.7	5.1	4.8	4.9	5.7	5.7
Total Labor Force *[total]*	*73.9*	*85.7*	*87.0*	*87.7*	*88.8*	*90.8*	*91.6*
0-24 hours	17.2	21.4	20.4	20.3	19.4	18.3	18.1
25-34 hours	11.8	14.1	13.9	14.0	14.1	14.6	15.6
35+ hours	44.9	50.2	52.7	53.4	55.2	57.9	58.0
0-34 hours Sub-total	*29*	*35.5*	*34*	*34*	*33.5*	*33*	*33.t*

Sources: BPS 2002 [and other years]

Table A.4: Key Economic Variables

Year	GDP Current (Rp.billion)	GDP -real 1993=100 (Rp.billion)	GDP-real Growth (%)	GDP -real per capita (Rp. 000)	GDP/cap Growth Real (%)	Inflation General (%)	Inflation Food (%)	Exports NonOil (US$milln)	Exports Oil&Gas (US$milln)	Exports Total (US$milln)	Exports Growth NonOil (%)	Exports Growth Oil&Gas (%)	Exports Growth Total (%)	Oil Prices 1995=100	Exchange Rate Rp/USD	Net Official Flows (US$milln)	Net Private Flows (US$milln)	GDP Current (US$milln)	Net Official Flows as % of GDP	Net Private Flows as % of GDP
1960	390	52,534		552		30	23	621	219	841					45	163	20	8617	1.89	0.23
1961	470	55,550	5.74	572	3.59	77	123	527	261	788	-15.1	18.9	-6.3		45	365	-11	10382	3.52	-0.11
1962	1,335	56,573	1.84	571	-0.23	154	129	448	216	664	-15.1	-17.3	-15.8		45	109	11	29485	0.37	0.04
1963	3,209	55,308	-2.24	547	-4.22	128	155	429	269	698	-4.2	24.5	5.1		45	113	10	70866	0.16	0.01
1964	7,134	57,260	3.53	555	1.43	135	128	458	266	724	6.7	-0.9	3.8		253	103	25	28251	0.36	0.09
1965	23,710	57,879	1.08	549	-0.97	594	685	436	272	708	-4.8	2.1	-2.3	9.6	253	253	18	93901	0.27	0.02
1966	316	59,495	2.79	553	0.70	635	500	475	203	679	9.1	-25.2	-4.1	9.6	253	124	50	1251	9.91	4.00
1967	848	60,316	1.38	549	-0.68	112	146	426	240	665	-10.4	17.8	-2.0	9.6	235	233	109	3608	6.46	3.02
1968	2,097	66,900	10.92	597	8.66	85	65	433	298	731	1.7	24.2	9.8	9.6	326	220	65	6432	3.42	1.01
1969	2,718	71,464	6.82	625	4.65	10	9	471	383	854	8.7	28.7	16.8	9.6	326	284	71	8338	3.41	0.85
1970	3,340	76,863	7.55	658	5.37	9	1	662	446	1,108	40.6	16.6	29.8	9.6	378	361	75	8837	4.09	0.85
1971	3,794	82,262	7.02	690	4.85	2	2	756	478	1,234	14.2	7.1	11.3	12.0	415	317	150	9142	3.47	1.64
1972	4,548	88,051	7.04	721	4.54	26	45	865	913	1,778	14.4	91.1	44.1	16.0	415	378	427	10959	3.45	3.90
1973	6,753	95,187	8.10	762	5.58	27	28	1,602	1,609	3,211	85.3	76.2	80.6	23.0	415	556	498	16273	3.42	3.06
1974	10,708	102,454	7.63	801	5.12	33	32	2,215	5,211	7,426	38.2	224.0	131.3	68.5	415	596	382	25802	2.31	1.48
1975	12,643	107,553	4.98	821	2.52	20	23	1,792	5,311	7,103	-19.1	1.9	-4.4	72.7	415	1778	-1493	30464	5.84	-4.90
1976	15,467	114,960	6.89	857	4.39	14	13	2,542	6,004	8,547	41.9	13.1	20.3	73.9	415	1632	237	37269	4.38	0.64
1977	19,011	125,032	8.76	910	6.22	12	12	3,555	7,298	10,853	39.8	21.5	27.0	77.9	415	1397	-72	45809	3.05	-0.16
1978	21,967	133,493	6.77	949	4.27	7	4	4,205	7,439	11,643	18.3	1.9	7.3	77.9	625	1387	333	35148	3.95	0.95
1979	32,025	143,270	7.32	995	4.82	22	22	6,719	8,871	15,590	59.8	19.3	33.9	105.7	627	1725	-611	51077	3.38	-1.20
1980	45,446	157,426	9.88	1,067	7.31	16	16	6,169	17,782	23,950	-8.2	100.4	53.6	175.6	627	2204	-630	72510	3.04	-0.87
1981	54,027	169,905	7.93	1,130	5.84	7	8	4,501	20,663	25,165	-27.0	16.2	5.1	201.1	644	1963	18	83893	2.34	0.02
1982	59,633	173,722	2.25	1,133	0.26	10	7	3,929	18,399	22,328	-12.7	-11.0	-11.3	200.7	693	4117	1639	86112	4.78	1.90
1983	71,215	181,006	4.19	1,157	2.17	11	10	5,005	16,141	21,146	27.4	-12.3	-5.3	174.0	994	4776	1826	71645	6.67	2.55
1984	77,623	193,632	6.98	1,214	4.90	9	6	5,870	16,018	21,888	17.3	-0.8	3.5	169.7	1074	2865	757	72274	3.96	1.05
1985	89,885	198,399	2.46	1,220	0.48	4	2	5,869	12,718	18,587	0.0	-20.6	-15.1	164.4	1125	1739	68	79898	2.18	0.09
1986	96,997	210,055	5.88	1,266	3.82	9	14	6,528	8,277	14,805	11.2	-34.9	-20.3	164.0	1641	3074	1291	59108	5.20	2.18
1987	102,683	220,403	4.93	1,303	2.89	9	12	8,580	8,556	17,136	31.4	3.4	15.7	106.2	1650	2104	1548	62232	3.38	2.49
1988	124,817	233,143	5.78	1,352	3.73	5	8	11,537	7,682	19,219	34.5	-10.2	12.2	88.8	1731	1965	407	72107	2.73	0.56
1989	142,105	250,728	7.54	1,425	5.46	6	7	13,480	8,679	22,159	16.8	13.0	15.3	100.8	1797	776	314	79079	0.98	0.40
1990	167,185	269,181	7.36	1,501	5.28	10	7	14,604	11,071	25,675	8.3	27.6	15.9	127.7	1901	633	4113	87946	0.72	4.68
1991	195,597	287,470	6.79	1,571	4.72	10	10	18,248	10,895	29,142	24.9	-1.6	13.5	108.8	1992	1419	4410	98191	1.45	4.49
1992	227,450	308,051	7.16	1,656	5.37	5	6	23,300	10,496	33,796	27.7	-3.7	16.0	108.8	2062	1112	5359	110306	1.01	4.86
1993	259,885	329,776	7.05	1,744	5.30	10	5	26,994	9,613	36,607	15.9	-8.4	8.3	100.3	2110	743	5219	123168	0.60	4.24
1994	302,018	354,641	7.54	1,845	5.82	9	14	30,292	9,931	40,223	12.2	3.3	9.9	92.3	2200	307	3701	137281	0.22	2.70
1995	454,514	383,792	8.22	1,965	6.51	9	13	36,969	10,485	47,454	22.0	5.6	18.0	100.0	2308	336	10253	196930	0.17	5.21
1996	532,568	413,798	7.82	2,087	6.17	6	6	38,021	12,167	50,188	2.8	16.0	5.8	116.9	2383	-522	11511	223486	-0.23	5.15
1997	627,696	433,246	4.70	2,152	3.12	11	20	44,576	11,721	56,297	17.2	-3.7	12.2	109.4	4650	2880	-338	134988	2.13	-0.25
1998	955,736	376,375	-13.13	1,841	-14.42	78	118	42,951	7,420	50,371	-3.6	-36.7	-10.5	70.9	8025	9971	-13846	119095	8.37	-11.63
1999	1,099,732	379,352	0.79	1,829	-0.69	2	-5	40,987	10,254	51,241	-4.6	38.2	1.7	101.1	7085	5353	-9922	155220	3.45	-6.39
2000	1,264,919	397,934	4.90	1,891	3.38	9	4	50,341	15,067	65,408	22.8	46.9	27.6	164.0	9595	3217	-9990	131831	2.44	-7.58
2001	1,449,398	411,132	3.32	1,925	1.84	13	12	44,805	12,558	57,363	-11.0	-16.7	-12.3	137.9	10400	-741	-8252	139365	-0.53	-5.92
2002	1,610,012	426,741	3.80	1,971	2.36	10	9	46,307	12,511	58,818	3.4	-0.4	2.5		8940	-546	-2270	180091	-0.30	-1.26

Sources:

GDP-Current: 1960-93 from BPS 1997; 1994 from BPS 1998a; 1995-99 from BPS 2002 & Various; 2000-02 from BPS 2003c.

Inflation & Export figures: 1960-95 from BPS 1997; 1996-2002 from BI [Bank Indonesia] 2003a

Exchange Rate, Net Official Flows, Net Private Flows are from BI 2003a.

Oil Prices from IMF "International Financial Statistics"

ANNEX B

DETERMINING WHAT HAPPENED TO THE WELL-BEING OF THE POOR

DETERMINING WHAT HAPPENED TO THE WELL-BEING OF THE POOR

How Good Are Real Wages As a Proxy for the Income of the Poor?

Changes in the real wages of unskilled workers are used throughout this paper as a proxy for changes in the real expenditures or income of the poor. This has been criticized on several grounds. For one, only about a third of the income of the poor is wage income and less than a third of the poor are principally wage earners [McCulloch]. Another third of their income is "agricultural income", mostly derived from selling or consuming crops or other output they have produced, be it as share-croppers or owners of small plots. It is then argued that the prices of the crops or livestock the poor produce are as important as their wages in determining their income.

However, whether the poor are wage earners or derive income from agriculture, trade or other informal sector activities, wages can serve as proxy for their income if two propositions hold true.

One fundamental premise is that *the poor derive most of their income from unskilled [or semi-skilled] labor*. Some are primarily wage earners, others are self-employed and still others are unpaid family labor, receiving a share of income generated by their family. The great majority of the last named are in agriculture and their subsistence is provided by consuming some of the food they produce while their cash income is derived from the sale of agricultural produce. It shows up as income from agriculture and not as wages. But what all of them primarily provide is unskilled labor. For the self-employed or family workers the labor is embedded in the value of their output. The return to the land they own or to the capital they provide is small. If they have sufficient assets, in the form of land or working capital, so that the return on assets provides a substantial share of income then they are unlikely to be poor. If they are skilled workers, again they would not be among the poor. So it is not just wage earners who derive their principal income from labor, but many or most of the other poor as well. They may report their income as derived from agriculture, but usually someone else is providing the land and they work as share-croppers or tenants. As agricultural workers the poor contribute their labor, the landlord provides the land. It is the landlord whose income is derived from land, while that of the poor is derived from the labor they contribute. Others among the poor may report their income as from trade. But only a tiny fraction of the income is attributable to their working capital. If they buy a package of cigarettes, for instance, which they sell by the "stick", often one cigarette at a time, their working capital might be one dollar equivalent. If they drive a bicycle rickshaw [betjak] their working capital is usually zero – the rickshaw is rented. Neither the cigarette peddlers nor the rickshaw drivers are wage earners, but both derive their income primarily from labor.

The second premise is that *labor income in different sectors, occupations, and regions changes in the same direction and by roughly the same magnitude as in other occupations/sectors/regions and as income from wage labor*. If labor income in one activity,

say unpaid family labor in agriculture, rises much more rapidly because output prices are favorable, then family members working in the city will return and drive down the average return on the family land. Conversely when wages rise in the city or income from agriculture declines some family members will find it worthwhile to leave the family farm or the petty family business and migrate, slowing the rise in urban wages. At the same time the average return for those remaining on family land or in family business will rise if some of the extra family workers were largely redundant and their departure does not significantly erode total output/ income.[1] Migration among regions will result in similar movements in labor income at least within Java and neighboring areas and, more slowly, among areas with less movement, as workers move to areas where incomes have risen more and away from areas where it has increased less. There has indeed been great movement among areas in response to wage differences .

There is no assumption that labor income is the same across sectors, occupations or regions. Unlike the dual labor market model, which assumes two labor sub-markets with substantial barriers to movement between them, the underlying model for wage determination in this paper postulates multiple sub-markets with barriers to entry of various heights among them. Wage levels in each can vary greatly depending on the height of barriers to entry into the particular labor sub-market. But as long as there is some movement of workers among sub-markets then there will always be some marginal workers who will move in response to wage differentials that get out of line. For instance, when bicycle rickshaws were banned in parts of Jakarta, returns to labor dropped substantially in that market. But returns to rickshaw drivers would quickly increase again as migrants to the city sought out more attractive street occupations, some drivers stayed in their villages after returning for the harvest and others retired early until returns to labor were again in balance with alternative work, taking barriers to entry into account.

Given the two premises, changes in wages in the formal labor market are a good proxy for changes in labor income in most of the economy, but a very poor proxy for levels in different parts of the market. [The theoretical model is in Papanek and Manove]. There is good empirical evidence for Indonesia of a high correlation among different wage series and between wages and the income of the poorest 40%. For a useful statistical analysis of the high correlation between agricultural wages and the income of the poorest 40% in rural areas see Wibowo [2004]. He concludes that farm wages lead rural incomes by 3 months and that the co-movement of the two series is significant at the 5% level[2]. There is also high correlation between movements of wages in agriculture, industry, and small and household firms [Tables A.3.a and Papanek, Molyneux and Choesni]. Wages for workers in rice agriculture are therefore used as a proxy for the income of the poor in this paper.

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[1] In other words the marginal product of labor is close to zero. Those remaining will probably need to work more hours. But if they already have more leisure than they desire at the current income then the opportunity cost of the additional work will also be close to zero.

[2] Using the Johansen cointegration test. The three-month lead is significant at 90% [Granger causality test].

Alternative Deflators and the Analysis of Poverty

To compare income or expenditures of the poor over time it is obviously necessary to deflate nominal numbers to take account of price changes. The only consumer price index [CPI] available for a long period of time is the Urban CPI. For the early years that index is actually only for Jakarta. For want of a better index, it is widely used, but can be quite wrong for the rural poor and it is not even very good for the urban poor. A good CPI should reflect the composition of the "market basket" the poor actually buy and the prices that they pay. The urban CPI is deficient because:

- It is for urban areas, and the majority of the poor are rural;
- It is for the lower middle class, not the poor;
- It therefore has the wrong "market basket" of the goods bought; and
- It reflects urban rather than rural prices.

Table B.1 compares the weights in the market baskets for the 3 CPI series currently readily available for the period 1996–2002. Two of these series, the Urban CPI and its Food component, go back to 1970. The market basket for the poorest 40%, separately for rural and urban and for 1999 and 1969, are included as the basis for comparison.

Table B.1: Consumption Baskets and Consumer Prices Indexes [CPI] Weights [in percent]

	Rice	Other Food	Total Food	Housing	Other	Total Non-food
Poorest 40%						
Current [1999] data						
Urban	22	48	70	14	16	30
Rural	35	40	75	11	14	25
1969 data						
Rural	42.5	38.5	81			19
Indonesia	42.5	38	80.5			19.5
Urban CPI [1997-03]						
Total	5.5	33.5	39	27.5	33.5	61
Food Component	14	86	100	0	0	0
Rural CPI	14	38	53	19	29	47

Notes and Sources:

1. Poorest 40%. a. Current data: Calculated by Jack Molyneaux from the raw data of the Consumption Module of the Susenas for 1999 for the poorest 40%. Population weighted. The rice numbers are for 1996 and would be roughly 10% higher for 1999. They exclude rice in meals prepared outside the household, but that is not significant in the comparison, because it is also excluded from the CPI numbers. NOTE: The percent spent on Food was slightly lower for 1996 [66% urban; 70% rural] and for 2002 [68% urban; 72% rural].
   b. 1969 data from Papanek and Dowsett, calculated from Susenas 1969. Data are for the lowest income group which is 35% of the rural population and 25% of the total population; that is for a poorer group than for 1999.
2. Urban CPI data calculated from BPS weights for 1997-2003 as calculated by Peter Rosner [communication].
3. Rural CPI calculated by Jack Molyneaux [communication] from FTT/NTP [Farmers' Terms of Trade] data.

It is clear that the Urban CPI is very far from reflecting the market basket for the poorest 40%. It is quite inappropriate even for those living in the urban areas. Rice has 4 times the weight for the urban poor as for the population sampled by the Urban CPI. On the other hand the Urban CPI gives twice as much weight to housing as the consumption basket for the poorest 40% in the urban areas. The urban CPI is even less appropriate for the rural poor.

The food component of the urban CPI comes closer to reality for the poorest 40%, but it gives obviously no weight to the 25-30% of their income the poor spend on non-food items and it overweighs, by a factor of 2, foods other than rice[3]. The rural CPI actually comes closest to appropriately reflecting the consumptions basket of the poor, both urban and rural. It still gives too little weight to rice, of great importance during the Crisis when rice prices rose more rapidly, and in its aftermath when they fell more rapidly, than other components of the CPI. On the other hand the Rural CPI gives too much weight to the price of all non-food items especially those included in "non-food other than housing". But it reflects the weights of the poorest 40% better than the urban CPI or its food component.

The rural CPI also reports prices from the same villages where agricultural wages are collected, more appropriate as a deflator for the rural poor than urban prices. However, an analysis by Peter Rosner shows that selected rural food prices rose far higher than urban food prices beginning with the Crisis, even though the two series had moved closely together before then[4]. Since a great deal of care has been taken to collect price data for the urban CPI this might call into question the reliability of the rural CPI data. But without further analysis one cannot *a priori* prefer urban CPI prices to rural CPI prices.

Table B.2 shows nominal wage and expenditure data deflated by the 3 alternative measures of the CPI. It is clear that the deflator makes a great deal of difference. All 3 deflators are therefore reported in Tables 6 and 7. But because of the more appropriate weighting system it is likely that the rural CPI more closely reflects the prices faced by the poor than the other 2 deflators.

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[3] See Papanek and Dowsett for an analysis of these two series.
[4] Unpublished, untitled, undated 2004.

Table B.2: The Effect of Alternative Deflators on Measures of Poverty: Real Expenditure and Real Wages of the Rural Poor (in 1996 Rp.000)

Year	Nominal		Alternative deflators			Real expenditure of poorest 40%			Real Agriculture wages		
			Jan1996=100			1996 Rp. Monthly, deflated by			1996 Rp. Daily, deflated by		
	Expenditures	Agric	Urban CPI		Rural CPI	Urban CPI		Rural CPI	Urban CPI		Rural CPI
	Monthly of poorest 40%	Daily wages	General	Food	from FTT/NTP	General	Food	From FTT/NTP	General	Food	from FTT/NTP
1996	30.63	2.67	101	101	136	30.41	30.47	22.50	2.65	2.65	1.96
1997	32.97	2.93	112	121	149	29.49	27.35	22.15	2.62	2.43	1.97
1998	40.19	3.78	198	263	271	20.25	15.27	14.83	1.91	1.44	1.40
1999	65.77	4.85	202	250	341	32.49	26.36	19.27	2.40	1.95	1.42
2000	69.13	5.47	221	260	344	31.23	26.63	20.11	2.47	2.11	1.59
2001	72.36	6.21	249	291	398	29.04	24.89	18.16	2.49	2.14	1.56
2002	88.28	7.41	274	317	480	32.21	27.82	18.40	2.70	2.33	1.54
2003*		8.22	281	293	528				2.92	2.80	1.56

Sources: Expenditures from Papanek, Molyneaux, Choesni
Agriculture Wages from BPS 2003 a .
Urban CPI is from BI [Bank Indonesia] 2003 a.
Rural CPI calculated from BPS 2003 a and FTT/NTP [Farmers' Terms of Trade]
*Latest data available for 2003 is Q3.

Alternative Measures of Poverty Incidence

In 1996 the Central Statistical Office calculated two measures of poverty incidence; one used the consumption basket up to 1996 and the other an updated consumption basket. The two measures of poverty incidence differed by 50%. With the old consumption bundle 11% of the population fell below the poverty line in 1996; with the updated consumption bundle the figure was about 18% [for 1998 the estimates were 18% and 24% respectively]. The differences provide some measure of how sensitive poverty incidence estimates are to the definition of the poverty line. Regardless of the consumption bundle used, 1996 or 97 had the lowest incidence and 1998 was substantially higher: but the increase was either more than 50% or less than 40%, a considerable difference [see BPS 1998 for details].

Other changes in the consumption bundle occurred earlier, so we are not dealing with a single consistent series, but with several series mechanically spliced together. However, over the years the Central Statistical Office [BPS] has naturally redefined the poverty line to reflect changes in the consumption basket and in prices. Deflation and definition problems are always of concern in long time series, but are particularly serious for estimates of the poverty incidence, because so many of the poor cluster around the poverty line. To get a continuous series various sub-series, with different definitions, have been spliced together in overlapping years. This has introduced another potential source of error. Also the initial,

1970, figures were separately estimated [by Asra, cited by Booth 2000] and may not be comparable. Because of the large changes in the poverty incidence series caused by different definitions of "poverty" and different deflators over time, this paper relies far less on poverty incidence as a measure of poverty than on other measures. For information on sources and methods of calculation of all of these indexes see Papanek, Molyneaux and Choesni. Note that in 1996/8 BPS rebased and recalculated poverty incidence. The data in Table 6 for 1970 to 1993 were adjusted to reflect new (1998) BPS poverty line estimates. Adjustments were made separately for the rural and urban poverty incidence on a proportional basis in 1996 when data are available on both the old and the new base. National poverty incidence is calculated using imputed rural and urban populations.

It bears repeating, however, that the major changes from 1967 to 2000 are not in doubt regardless of poverty index or deflator used: a remarkable decline in the poverty incidence from 1967 to 1997, with an equally remarkable increase in the income or expenditures of the poor; a sharp, but brief increase in poverty and decline in income/ expenditure of the poor to the end of 1998; and recovery from then to 2000. However, as discussed in the paper itself, whether poverty incidence and income/expenditures of the poor are back to their previous 1996/97 highs depends very much on the index and deflator used and is therefore in dispute.

ANNEX C

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REFERENCES

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