Growth with or without Equity?
The distributional impact of Indonesian
development

Lisa Cameron*

This paper surveys articles that have examined and sought to explain the distributional change experienced in Indonesia during the past 30 years of rapid economic development. The literature is critically evaluated, and methodological difficulties and current data limitations are highlighted and point the way for advances in future research.

Indonesia has experienced remarkable economic change over the past 30 years. The average real GDP growth rate of 7.1 per cent per annum between 1968 and 1997 (van der Eng 2000) implies a more than seven-fold increase in

off and dislodged agriculture as the dominant economic sector. The oil price crash of 1982/83 forced the government to rethink its previously protectionist stance on international trade. In the mid 1980s import barriers were

spread through the society: those initially left behind catch up and inequality falls. The Kuznets hypothesis has received very mixed empirical support and the relationship between inequality and per capita income varies widely even within Southeast Asia (see Krongkaew 1994

is a large, stratified, random sample of the Indonesian population. It collects an extensive array of information about Indonesian households, including data on the demographic composition of households, households' economic activities a

Table 1
Trends in the Gini coefficient of household per capita consumption expenditure, 1964–1999

	Gini coefficient			Share of bottom 40 per cent (per cent)		
Year	Urban	Rural	Urban and rural	Urban	Rural	Urban and rural
1964/65	0.34	0.35	0.35	..	..	..
1969/70	0.33	0.34	0.35	19.48	19.56	18.62
1976	0.35	0.31	0.34	19.56	21.22	19.56
1978	0.38[a]	0.34	0.38	17.40		

in the 1960s and 1970s (0.35 in 1964/65). This is a large decrease for Gini coefficients which are not particularly sensitive indicators and can change by only small amounts in the face of even relatively large distributional shocks.

Is it plausible that rural inequality declined by this amount over this period? Alatas and Bourguignon (2000) found that the returns to land size decreased between 1980 and 1996. They hypothesised that this could be due to changes in agricultural prices between crops generally grown on small and large plots or to faster adoption of new technologies by smaller landholders. Opportunities for off-farm earnings for rural households have undoubtedly also contributed to falling rural inequality. Using data from 14 villages in Java and Sulawesi, Rietveld (1986) found that non-agricultural activities of farm households had an equalising effect on incomes. The most important single force in declining rural inequality, however, has been the geographical location of these off-farm opportunities. Manufacturing is heavily concentrated in Java. Rural Javanese households have historically been the poorest in the country. Unlike other countries where manufacturing and its opportunities have been clustered in historically more prosperous regions (Thailand for example), circular migration to cities and rural industrialisation on Java has provided the very poorest farm households with opportunities to increase their incomes. In this way rural Java has gained on rural areas in the Outer Islands and national rural inequality has decreased dramatically.

Decompositions of inequality

This story is supported by several studies that have sought to decompose inequality into components corresponding to rural versus urban areas, Java versus Outer Islands and, in some cases, into provincial components. Here we focus on Hughes and Islam (1981) and Akita and Lukman (1999) whose findings are representative of the wider literature and together provide a picture of how inter and intra-provincial differences in living standards and urban-rural differences have changed between the mid 1960s and the mid 1990s (Hughes and Islam examine the period 1964/65 to 1976 and Akita and Lukman the period from 1987 to 1993).[7] The figures from the two studies are unfortunately not directly comparable because Hughes and Islam base their calculations on monthly per capita expenditure figures from the Susenas, whereas Akita and Lukman only have access to household (rather than per capita) expenditure. However, quite a bit can be garnered from an examination of the relativities between urban and rural areas and Java and the Outer Islands.

Table 2 presents figures on average monthly household expenditure by province and urban/rural status from both papers. At the beginning of the New Order period, average per capita household expenditure was higher in the Outer Islands than in Java. Urban areas (in both the Outer Islands and Java) had higher expenditure per capita than rural areas. The urban Outer Islands thus had the highest per capita expenditure followed by urban Java, with rural areas in the Outer Islands just behind. Rural Java was by far the poorest region in 1964/65 and remains the poorest in terms of per capita expenditures today. There have been significant changes in the relativities between regions since the mid 1960s. Between 1964/65 and 1976 urban Java grew more quickly than the rest of the country, due to its role as the nation's manufacturing centre. By 1976 it had overtaken urban areas in the Outer Islands and by 1987 there was very little difference in average monthly household expenditure between the Outer Islands as a whole and Java. The gap between rural Java and the rural Outer Islands also decreased sharply between 1964/65 and 1976. Rural areas in the Outer Islands had expenditure levels considerably higher than expenditures in rural Java up until 1976. Apart from the off-farm employment opportunities referred to

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Table 2
Average monthly expenditure, 1964/65–1993

Average monthly per capita household expenditure[a]

	Region	Expenditure (Rp)			Index (all Indonesia = 1.00)		
		Rural	Urban	All	Rural	Urban	All
1964/65 (Old Rp)	Java	4,640	7,279	5,045	0.80	1.25	0.87
	Outer Islands	7,040	9,240	7,319	1.21	1.59	1.26
	Indonesia	5,472	7,880	5,818	0.94	1.35	1.00
1970 (New Rp)	Java	1,029	1,714	1,144	0.76	1.27	0.85
	Outer Islands	1,712	2,070	1,759	1.27	1.53	1.30
	Indonesia	1,272	1,819	1,351	0.94	1.35	1.00
1976	Java	3,468	7,025	4,113	0.77	1.57	0.92
	Outer Islands	4,772	6,797	5,133	1.06	1.51	1.14
	Indonesia	3,950	6,942	4,489	0.88	1.55	1.00

Average monthly household expenditure[b]

	Region	Expenditure (Rp '000)			Index (all Indonesia = 1.00)		
		Rural	Urban	All	Rural	Urban	All
1987	Java	76.1	163.6	101.8	0.74	1.58	0.98
	Outer Islands	91.2	167.1	106.1	0.88	1.62	1.03
	Indonesia	82.2	164.5	103.4	0.79	1.59	1.00
1990	Java	100.1	212.1	136.8	0.73	1.54	0.99
	Outer Islands	120.5	207.8	140.0	0.87	1.51	1.01
	Indonesia	108.5	210.8	138.0	0.79	1.53	1.00
1993	Java	133.6	297.2	193.4	0.69	1.54	1.00
	Outer Islands	157.7	293.3	191.4	0.82	1.52	0.99
	Indonesia	143.7	296.1	192.7	0.75	1.54	1.00

Sources: [a] Hughes, G. and Islam, I., 1981. 'Inequality in Indonesia: a decomposition analysis of the degree of inequality in the distribution of income', *Bulletin of Indonesian Econo...*

Table 3
Decomposition of aggregate inequality, 1970–76
(contribution to Theil Index, per cent)

	1970	1976	1976 price adjusted
Within groups			
Java urban	13.0	22.4	24.0
Java rural	29.7	28.6	35.0
Outer Islands urban	6.6	8.7	8.0
Outer Islands rural	34.4	23.8	22.6

Table 5
Household expenditure and urban share by province, 1987 and 1993

	Mean monthly household expenditure (all Indonesia = 1.00)		Share of urban households (per cent)	
	1987	1993	1987	1993
Jakarta	2.34	2.50	100.00	100.00
East Kalimantan	1.45	1.71	42.20	49.70
Riau	1.25	1.26	31.60	32.80
South Sumatra	1.20	1.02	27.20	29.50
North Sumatra	1.18	1.09	29.50	37.20
West Sumatra	1.17	1.03	15.30	22.60
Aceh	1.14	1.10	10.00	17.20
Jambi	1.06	0.97	13.80	22.50
Bengkulu	1.06	0.90	12.30	24.40
South Kalimantan	1.04	1.05	22.10	27.20
North Sulawesi	1.03	0.90	15.45	24.30
Maluku	1.02	1.08	12.60	21.80
Central Kalimantan	1.01	1.06	13.60	20.10
West Java	0.98	1.06	24.30	36.00
West Kalimantan	0.98	1.05	17.60	19.20
Lampung	0.97	0.75	14.40	11.90
Bali	0.97	1.13	19.40	30.10
Central Sulawesi	0.97	0.93	8.70	17.90
Yogya	0.92	1.07	24.70	54.80
Irian Jaya	0.92	1.13	23.50	22.70
East Java	0.84	0.81	22.90	27.90
South Sulawesi	0.84	0.89	18.70	24.90
East Nusa Tenggara	0.83	0.78	8.60	11.60
Central Java	0.80	0.77	24.20	28.10
Southeast Sulawesi	0.74	0.85	9.40	18.80
West Nusa Tenggara	0.72	0.72	18.80	17.20
East Timor	0.63	0.84	0.00	7.40

Source: Akita, T., Lukman, R. and Yamada, Y., 1999. 'Inequality in the distribution of household expenditures in Indonesia: a Theil decomposition analysis', *Developing Economies*, 37(2):197–221.

currently accounts for the major portion of inequality and its contribution has been increasing. Inequality rose in 19 out of the 27 provinces between 1990 and 1993. Not surprisingly Jakarta has very high inequality (the highest in 1993). Inequality is also relatively high within Bali and Irian Jaya. East Timor has experienced large increases in inequality.

Overall, the studies reveal that
* urban inequality increased sharply to become the main contributor to inequality, driven largely by increases in inequality in urban areas in Java

* the gap between urban and rural areas increased
* rural areas in Java gained on rural areas in the Outer Islands leading to a large decrease in rural inequality and more than offset the increases in urban inequality
* between 1987 and 1993 inter-provincial differences remained relatively stable and small.

So, the statistics confirm the perception that urban inequality has been increasing but suggest that the popular view neglects the experiences of the majority of the population

Table 6
Intraprovincial inequality, 1976–1993

	1976		1987		1990		1993	
	Gini coefficient	Rank	Gini coefficient	Rank	Gini coefficient	Rank	Gini coefficient	Rank
Jakarta	0.392	24	0.333	17	0.352	22	0.379	25
East Java	0.334	16	0.381	25	0.351	21	0.379	24
Yogyakarta	0.372	20	0.363	24	0.378	25	0.378	23
West Java	0.298	9	0.36	23	0.358	24	0.359	22
West Sumatra	0.268	3	0.312	7	0.328	15	0.355	21
East Kalimantan	0.235	2	0.306	5	0.312	11	0.354	20
Bali	0.227	1	0.356	22	0.342	17	0.347	19
Aceh	0.296	8	0.333	16	0.279	3	0.344	18
South Sumatra	0.306	10	0.322	10	0.313	12	0.341	17
Central Java	0.314	13	0.33	15	0.336	16	0.34	16
West Kalimantan	0.318	14	0.31	6	0.319	13	0.337	14
West Nusa Tenggara	0.309	12	0.345	19	0.354	23	0.337	15
Maluku	0.375	21	0.35	21	0.277	2	0.334	13
Central Sulawesi	0.377	23	0.326	12	0.305	10	0.331	12
South Sulawesi	0.354	19	0.318	8	0.348	19	0.321	11
Southeast Sulawesi	0.354	19	0.349	20	0.35	20	0.318	10
South Kalimantan	0.285	6	0.321	9	0.295	7	0.318	9
East Nusa Tenggara	0.375	21	0.342	18	0.344	18	0.314	8
North Sumatra	0.276	5	0.327	13	0.293	5	0.313	7
North Sulawesi	0.413	25	0.322	11	0.294	6	0.311	6
Lampung	0.332	15	0.329	14	0.319	14	0.307	5
Riau	0.342	18	0.291	4	0.296	9	0.296	4
Bengkulu	0.306	10	0.261	1	0.293	4	0.29	2
Central Kalimantan	0.271	4	0.288	3	0.296	8	0.29	3
Jambi	0.289	7	0.277	2	0.262	1	0.285	1
Irian Jaya			0.426		0.371		0.389	
East Timor			0.258		0.367		0.404	
Indonesia			0.372		0.361		0.378	
Within province (per cent)				83.00		83.30		81.20
Between province (per cent)				17.00		16.70		18.80

Source: For 1976: Islam, I. and Khan, H., 1986. 'Spatial patterns of inequality and poverty in Indonesia', *Bulletin of Indonesian Economic Studies*, 22(2):80–102.
For 1987, 1990 and 1993: Akita, T., Lukman, R. and Yamada, Y., 1999. 'Inequality in the distribution of household expenditures in Indonesia: a Theil decomposition analysis', *Developing Economies*, 37(2):197–221.

that reside in rural areas, and the many outside Java. This is not so surprising given that the popular view emerges largely from the experience of urban centres.[9] When changes in other parts of the country are allowed for, it is not necessarily surprising that the urban experience is not representative of the national experience. This is not to say that the figures presented above are trouble-free, and criticisms of the figures are discussed in the following section.

9   This can be seen in the stories in the press that focus on the accrual of wealth of the mega-wealthy and the middle-class patronage of extravagant Jakarta shopping malls—it may not be inaccurate to categorise this view even more narrowly as Jakarta-centric.

Crisis impact

The recent financial crisis resulted in a sharp decrease in inequality as is evident in the sharp decline in the national Susenas Gini coefficient from 0.36 to 0.32 between 1996 and 1999 (Table 1). Skoufias and Suryahadi (2000) have investigated this decline and find that it seems to have arisen from a decrease in regional inequality, where regions are defined by province and urban/rural status. Urban areas (which tend to be wealthier than neighbouring rural areas) were hit harder than rural areas and the urban middle class who lost their formal sector jobs were especially harshly affected. Some rural households gained from the increased export opportunities resulting from the depreciation of the rupiah and the increase in rice prices. Java was hit harder than the Outer Islands. Skoufias and Suryahadi (2000) find that inequality within regions actually increased.

In judging the usefulness of estimates from the Susenas it is useful to have a source of comparison. Historically there has been no such source, however, the concern over the recent financial crisis has spawned a number of comparison surveys. The decrease in inequality evident in Susenas is confirmed in the Indonesian Family Life Survey (IFLS) (see Beegle, Frankenberg and Thomas 1999).[10] The 100 Villages Survey also shows decreases in inequality in urban areas during the crisis, although not in rural areas (Skoufias, Suryahadi and Sumarto 1999).[11]

Table 7
Headcount measure of poverty using the BPS official poverty line, 1976–99

	Urban	Rural	Total
1976	38.8	40.4	40.1
1978	30.8	33.4	33.3
1980	29.0	28.4	28.6
1981	28.1	26.5	26.9
1984	23.1	21.2	21.6
1987	20.1	16.4	17.4
1990	16.8	14.3	15.1
1993	14.2	13.1	13.5
1996	9.7	12.3	11.3
1999	19.8	25.85	23.6[a]

[a] BPS changed the commodity bundle it used to calculate the poverty line in 1999. The 1999 figures are hence not directly comparable with those from previous years. If the same methodology had been used as in previous years the national poverty rate would have been 18.9 per cent in 1999 (Suryahadi et al. 2000).

Sources: Hill, H., 1996. *The Indonesian Economy since 1966: Southeast Asia's emerging giant*, Cambridge University Press, Melbourne; Booth, A., 2000. 'Poverty and inequality in the Soeharto era: an assessment', *Bulletin of Indonesian Economic Studies*, 36(1):73–104; Pradhan, M., Suryahadi, A., Sumarto, S. and Pritchett, L., 2000. *Measurement of Poverty in Indonesia: 1996, 1999, and beyond*, Working Paper, Social Monitoring and Early Response Unit (SMERU) Research Institute, Jakarta.

Even with inequality increasing in the 1990s it

but in 2000 was still above its pre-crisis level (Sur-yahadi, Sumarto, Suharso and Pritchett 2000).

Poverty figures are of course a function of the poverty line used. Indonesia's poverty line has been widely criticised for being too low. In particular, the share of non-food items used to construct the poverty line is very low by inter-national standards. Nevertheless, Ravallion and Huppi (1991) show that regardless of what poverty line is used, national poverty decreased between 1984 and 1987. Alatas and Bourguignon (2000) found the same result for the period 1980 to 1996, and Cameron (2000) showed that this was true also for Java between 1984 and 1990.[12]

That poverty declined dramatically during the New Order period is well-established. That inequality decreased until 1990 and increased only marginally in the mid 1990s, as suggested in Table 1, is more hotly contested. The next section focuses on the limitations of the inequality figures and discuss how add-ressing them might affect conclusions about distributional change.

Methodological issues

While there are a number of grounds on which the figures reported above can be criticised, some are more legitimate than others.

Reliance on the Susenas expenditure data

Almost all of the studies of changes in in-equality in Indonesia have used the Susenas expenditure data. These data are collected from a large number of questions about the expenditure of the household. Detailed ques-tions are asked about food expenditure in the past week and non-food expenditure in the past twelve months. Households are also asked to value any produce of their own that they have consumed. These figures are con-verted to monthly values to produce estim-ates of the value of the household's monthly expenditure. The reliability of the Susenas data has been criticised in some quarters. However, amongst those who regularly work with such data the Susenas is held in reasonably high regard on the basis that it exhibits the empir-ical regularities one would expect to see in data of this kind[13] and because of the data collection processes followed. BPS follows international standard data-collection practice and the data are unlikely to be of a lower quality than that collected in other countries at a similar level of development with which Indonesia is most often compared. For example, Deaton (2000) cites India and Indonesia as countries that produce 'best practice consumption measures' (see Surbakti 1995 for details of data collec-tions procedures).

One of the more serious criticisms leveled at the accuracy of the Susenas data is that its estimate of aggregate household consumption is substantially lower than that in the National Accounts (about 50 per cent in the 1990s). This difference is advanced as evidence that the Susenas considerably underestimates house-hold expenditure. It is worth noting that this discrepancy is common around the world—in both developed and developing countries. At least part of this difference is driven by the dif-ference in definitions between the two data sources. The National Accounts consumption figure includes the imputed rental of owner-occupied dwellings as well as consumption of non-profit organisations. The former compon-ent is large. For instance, Deaton (2000) reports that in India, where the ratio between the household survey and national accounts figures is of approximately the same magni-tude as in Indonesia, it is estimated that about half of the discrepancy is due to these implicit rents. Beyond the definitional differences, it is not clear that the National Accounts data are more accurate than the Susenas data. Whereas expenditure estimates from house-hold surveys are obtained directly, most expenditure items in the National Accounts are derived as residuals and so absorb errors

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12 This is the case when the cumulative distribution function of per capita expenditure or income in one period first order stochastically dominates the distribution in previous periods (see Deaton 1997).
13 For example, significant positive relationships between the level of expenditure and years of education of the household head or household size, and predictable changes over time.

and omissions elsewhere in the accounts. Consequently, Deaton (2000) concludes that 'it is quite unclear that the NAS (National Accounts Statistics) estimates of consumption should be treated as the gold standard to which the survey estimates should ideally correspond'.[14]

Notwithstanding the above, the Susenas data undoubtedly have some measurement and sampling problems. A concern that has been raised in Indonesia and elsewhere is that households in the tails of the distributions are likely to be under-represented in survey data. Wealthy households are more likely to refuse the intrusive BPS interview and those that are interviewed may tend to downplay their wealth. Very poor families with no fixed abode also pose difficulties in collection of data. Hence, the Susenas inequality estimates may be underestimates of total inequality.[15] The extent to which these difficulties affect trends in inequality depends on whether the degree of undersampling changes over time. While it is possible that as the population becomes wealthier, more people start understating their wealth and hence the increase in inequality may be underestimated, it is unlikely that this factor is driving the inequality results—especially when one considers that the urban 'middle class' constitutes such a small percentage of the population.[16] However, one would expect any changes in reporting patterns with development to also be apparent in other countries' data. That Indonesian inequality does not seem to follow blindly the patterns observed in other countries in the region suggests that measurement error is

households.) This criticism of the data extends to both the income and expenditure data.

Consumption data versus income data

The literature to date has relied overwhelmingly on the Susenas expenditure data. Is it the distribution of expenditure that one should be most concerned with or the distribution of income? A case can be made for examining both kinds of data. Conceptually, what we are interested in is the distribution of living standards across individuals. The question then becomes: does consumption or income best represent an individual's living standards? Theoretically, expenditure data are likely to reflect more closely households' permanent income and hence the welfare of the household. Households are able to save and dissave over time and so current income may not reflect household welfare as accurately as current expenditure. For instance, imagine an agricultural household that owns some fertile land and generally makes a good living out of its thrice-yearly rice crops. Every now and again there is a drought during which the household maintains its consumption by drawing upon its savings. In this case, current consumption is a better indicator of household welfare than is current income. In a bad year the household may appear very poor according to current income whereas measurement of current consumption would indicate that the household is in a relatively strong position over the longer term. For these reasons expenditure data (which include consumption

although rich households may not be consuming a great deal more than less-wealthy households, if they are accumulating wealth (in excess of what is needed to smooth consumption) then, given people's known concerns with earnings relativities, the fact that they are securing a larger proportion of the country's earnings may have a detrimental impact on the welfare of those who are earning relatively less. The income data are also useful as a verification of trends found in the expenditure data and for comparison with the inequality measures of the many countries that calculate their inequality figures on the basis of income.

The Susenas does collect household income data. Like the consumption module, the income module is conducted on a three-yearly basis. The module collects detailed data on salaries and wages and the inputs and outputs of businesses run by the self-employed. It also collects information on non-labour income. Like the expenditure data, measurement errors undoubtedly occur but the questions are similarly structured to minimise the chance of error (for instance, rather than asking the self-employed to report their income, questions on inputs and outputs are asked) and the expected underlying patterns are evident in the data.

It is somewhat ironic that the income data have been largely ignored in the literature on income distribution. Some authors mention the data but many seem unaware of their existence, perhaps because BPS does not regularly publish statistics on the basis of the income data. Cameron (2000) and Alatas and Bourguignon (2000) are two studies that directly use these data. BPS has periodically calculated Gini coefficients on the basis of the Susenas per capita income figures. BPS figures for 1976 to 1982 are reported in Asra (2000).

They show that, as expected, inequality in income is higher than in consumption because wealthier households save a larger percentage of their incomes and the trends in inequality across the nation and within urban and rural regions from both the income and expenditure series are very similar.

Income inequality Gini coefficients for 1984 and 1990 were calculated from the raw Susenas income data. The Gini coefficients were 0.42 and 0.43 respectively. For the mid to late 1980s when income inequality was felt to be a pressing social concern, the income data show (small) increases in inequality that were not captured in the expenditure data. The income data appears to be a significantly under-utilised resource in the literature on income distribution in Indonesia.[17]

Prices

A potentially more serious criticism of the inequality comparisons stems not from the Susenas data but from the difficulty of adjusting the data for regional cost of living differences. The BPS official figures (and most studies in the literature) do not allow for regional cost of living differences when calculating the inequality figures. Hence, in most studies Rp1,000 in East Nusa Tenggara is treated as though it buys the same as Rp1,000 in Jakarta. Similarly, no allowance is made for differences between rural and urban prices within provinces.[18] This failing has been widely acknowledged in the literature (Asra 1989, 1999; Booth 1993). Some studies have attempted to construct price indices to overcome this problem but these attempts have been largely *ad hoc* in nature because the data required to construct a reliable index are not collected. BPS also does

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17 The National Labour Force Survey (Sakernas) also collects information on labour incomes for employees. Hence, it can provide information on the distribution of wages and salaries but not household income. These figures are difficult to interpret given the increase in the proportion of the labour force working as employees over time. Yoneda (1985) and Sigit (1985) use these data to examine the distribution of wage income within industrial sectors. Yoneda (1985) also examines the wage bill data in the Survey of Manufacturing Industries. Personal income tax data are also available and go back to at least 1921 (see Booth 1980). Given the small percentage of the population paying income taxes, inferences from these data cannot be extended to the population at large.

18 Note that some allowance is made for such differences in the calculation of the poverty figures. Different official poverty lines are used in rural and urban areas and by province—reflecting different prices and different consumption bundles. Ravallion and Bidani (1994) and Bidani and Ravallion (1993) criticise the official poverty lines on the basis that the urban poverty line is inflated relative to the rural poverty line, with the result that official urban poverty rates are artificially higher than the rural poverty rates.

not construct comprehensive price indices from the data that are available.[19]

Studies with cost of living adjustments

There are two fundamental issues associated with the use of price indices in the context of studies of inequality. The first is adjusting for spatial differences at a point in time and the other is adjusting for spatial differences in inflation rates. A study that attempts to look at changes in inequality across time would ideally deal with both of these issues. A further issue that arises is that price changes can affect individuals at different points in the income distribution differently. This point was highlighted during the recent financial crisis when food prices rose at a rate far above that of the CPI. Poorer households spend a larger proportion of their income on food and so were more disadvantaged by these changes.

We can gain some understanding of how controlling for regional price differences in one or more of the ways discussed above would affect the inequality indices by surveying the results of those studies that have made some attempt to control for prices. Sundrum (1979) was the first such study. This study examined changes in average per capita expenditure levels between 1970 and 1976. It used an urban consumer price index for 11 cities and the rural price index of nine essential commodities to control for differences in regional inflation rates.[20] The price indices show that prices increased more in urban areas than in rural areas. Urban price increases were about the same in Java and the Outer

not present Gini coefficients using the raw and price-adjusted data, the conclusions drawn from the price-adjusted data are the same as those of Hughes and Islam (1981) using the raw data. That is, that inequality increased in urban areas, declined in rural areas, increased in Java and declined in the Outer Islands and there was little change in the national average.

Hughes and Islam (1981) also produce some estimates that attempt to control for prices (in addition to the figures already presented in Tables 2, 3 and 4 which do not). They use an index constructed by Arndt and Sundrum (1975) and adapt it to allow crudely for rural–urban differences. On the basis of the smaller urban–rural difference in rice prices in the Outer Islands and the larger non-food price differential, they assume that in Java the rural price level is 90 per cent of the urban level, while it is 95 per cent in the Outer Islands. Note that, as in Sundrum (1979), no attempt was made to adjust for differences in expenditures at a point in time. The raw figures for this period show that inequality fell between 1964 and 1970 and was relatively stagnant over the 1970–76 period. Over this whole period they found that controlling for prices reduced the measures of inequality slightly. The price adjustments almost completely eliminated the difference between the average expenditure levels in Java and the Outer Islands in 1976.

Islam and Khan (1986) adjust for cost of living differences across space at one point in time. Their price index for the year 1976 is an adapted version of an index prepared by Esmara (1975). Prices in most of the Outer

report a Gini coefficient for 1976 per capita expenditure data of 0.35, more than the BPS figure of 0.34. Although both figures are based on per capita expenditure, it is not clear that the coefficients are strictly comparable. (They may be weighted differently; it is not clear if each household is one observation or if each individual is an observation.) It seems unlikely that taking account of higher urban prices and higher Outer Island prices would reduce inequality, given that the raw data show per capita expenditure to be higher in urban areas than in rural areas and Outer Island expenditure to be higher than expenditure on Java.

Hughes and Islam (1981) acknowledge that, as noted above, ideally one would also take into account different regional inflation and price trends across income groups. This point was taken up by Asra (1989) and was a central issue in arguments about the impact of the

figures than in the raw data (8.2 per cent higher in 1976) and show a sharp rise in inequality between 1969/70 and 1976, rather than the slight rise shown in the raw figures.[22]

It is clear that much could be gained in studies of inequality from the use of comprehensive, well-designed price indices. In particular, researchers need to be able to deflate for price differences across space at a point in time and also take into account regional differences in inflation rates. On the basis of the studies discussed above, it seems that controlling for prices may lead to lower values of inequality. It is also likely that these adjustments would reduce the extent of changes in inequality over time because as provinces become wealthier they tend to face higher prices.

The results of controlling for price changes at different points in the income distribution

information is useful, we do not know what is causing the changes and whether it is desirable, or even possible, to reverse the process. Authors are only able to conjecture vaguely as to the likely impacts of economic changes. To be of use to policymakers, research on inequality needs to identify causes as well as effects.

Only a few studies have tried to link the changes in inequality to underlying changes in the economy. Akita, Lukman and Yamada (1999) attempt to do this in a simple fashion by relating the living standards of households to the educational attainment of the household head. They find that differences in mean household expend...

Conclusions

In conclusion, and notwithstanding its potential pitfalls, the Susenas data is found to reasonably accurately capture changes in the distribution of income in Indonesian society. The data show that inequality in Indonesia has not increased markedly with development. Although urban inequality has increased, this change has largely been offset by declines in rural inequality. Indonesia can be considered to be 'lucky' in the sense that its industrial centre happens to be close to rural Java where

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