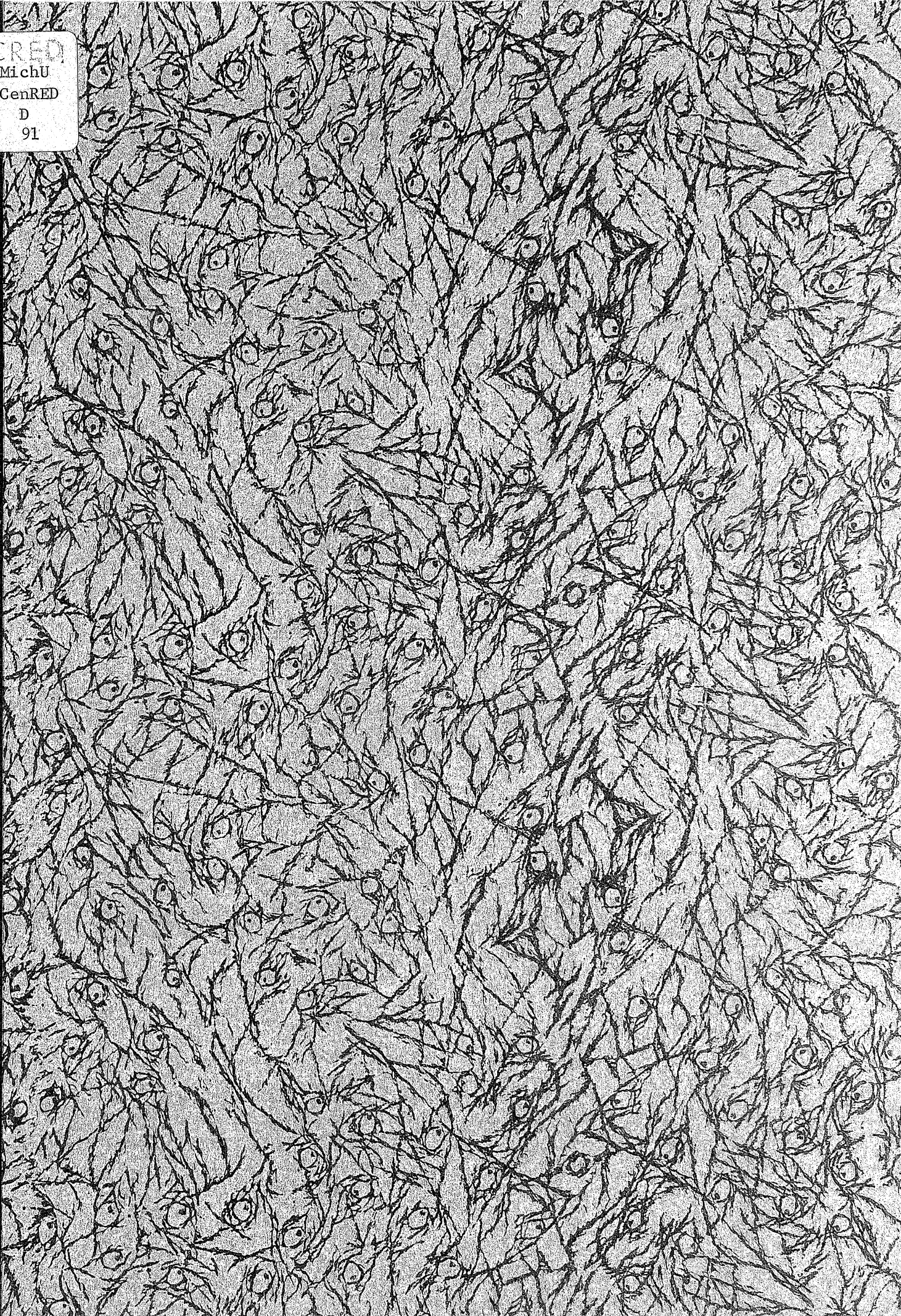


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A SKEPTICAL PERSPECTIVE ON
INCOME REDISTRIBUTION AND POVERTY
REDUCTION IN SRI LANKA

by
Scott Grosse *

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INCOME REDISTRIBUTION AND POVERTY
REDUCTION IN SRI LANKA**

by

Scott Grosse*

Discussion Papers are preliminary materials to stimulate discussion and critical comment. References in publications to Discussion Papers should be cleared with the author to protect the tentative character of these papers.

* * *

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TABLE OF CONTENTS

	<u>Page</u>
Abstract	v
List of Tables	vi
Introduction	1
I. Survey Differences	3
A. Overview, 1953-1973	3
B. Sampling Errors, 1963 and 1973	5
C. Non-Sampling Errors	7
D. Changes in Definition and Implementation of the Survey	9
E. Summary	12
II. Examination of the Data	12
A. Physical Consumption Data	12
B. Expenditure Data in Money Terms	15
C. Wage and Price Data	16
III. Other Factors Influencing Changes in Income Distribution	18
IV. Conclusion	21
Appendix	22
Bibliography	25

ABSTRACT

This paper challenges the widely-held idea that the distribution of income has become more equal in Sri Lanka in recent years and that the living standards of the poor have risen substantially. The survey data on income distribution is internally inconsistent and subject to so many biases that it is not possible to rigorously determine the direction or magnitude of the change in income distribution. More importantly, there is no evidence that the living standards improved for any major population segment during the period in which income is considered more equally distributed.

RESUME

Cette étude dispute l'idée populaire qu'au passé récent la répartition des revenus est devenue plus égale à Sri Lanka et que le niveau de vie des pauvres s'est sensiblement élevé. Les données sur la répartition du revenu sont inconsistantes et tellement partiales qu'il n'est pas possible de déterminer de manière rigoureuse ni la direction ni l'importance du changement de la répartition des revenus. En outre, il n'y a pas d'évidence que le niveau de vie se soit amélioré pour quelque section majeure de la population pendant la période au cours de laquelle le revenu est supposé avoir été distribué plus équitablement.

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1	The Distribution of Income by Ranked Deciles of Spending Units	4
2	Distribution of Per Capita Income Among Spending Units	23

A SKEPTICAL PERSPECTIVE ON INCOME REDISTRIBUTION AND POVERTY REDUCTION IN SRI LANKA

Introduction

Sri Lanka is often said to have achieved a dramatic reduction in income inequality in recent decades, a phenomenon which is usually attributed to socialist and social welfare government policies undertaken in Sri Lanka (Rasaputram, 1972; Chenery et al., 1974; Marga, 1974; Snodgrass, 1974; Lakshman, 1975; United Nations, 1976; Grant, 1976; Balakrishnan, 1979). Eddy Lee (1977: 184) has challenged the reliability of the survey income data on which such claims are based and concludes instead that "the data on consumption and real wages point strongly to the fact that there has been an increase in inequality and even a reduction in the levels of real consumption of the poor." The first part of this paper enumerates the differences among the Central Bank of Ceylon surveys (these constitute the primary statistical base for measuring changes in income distribution in Sri Lanka) that collectively are so serious as to render any conclusion as to the direction or magnitude of change in income distribution in Sri Lanka largely speculative. The second part of the paper examines the consumption data from the Central Bank surveys as well as independent measures of living standards; the objective is both to further debunk the myth of dramatic improvement in income distribution in Sri Lanka and challenge Lee's contrary assertion of increasing inequality. Finally, I conclude that the living standards of the poor were neither clearly higher nor lower at the end of the period in which income is supposedly more equally distributed (or less equally according to Lee) than they had been in the early 1960s.

This critical examination of income distribution data in Sri Lanka is intended to reinforce the fact that claims of dramatic income redistribution (either equalizing or unequalizing) in developing countries when carefully scrutinized are often found to be without firm foundation (Pfefferman and Webb, 1979; Anand, forthcoming). The case of Sri Lanka is of symbolic importance because of its prominence as a "success story" for democratic socialist policies. The conflict between the survey evidence indicating an improvement in income distribution and that indicating no rise in living standards, raises the question of whether poverty should be considered in a relative or an absolute sense. While the definition of poverty can vary dramatically from place to place and from time to time, the literature on income distribution in Sri Lanka could have been improved by greater

attention to indicators of absolute poverty as well as by a closer scrutiny on the reliability of the income data. The recent monograph on basic needs and poverty in Sri Lanka by Peter Richards and Wilbert Gooneratne (1980) does an admirable job in this regard of bringing together and evaluating various sources of data on income and living standards.

Problems with income survey data are by no means unique to Sri Lanka, and many of the problems discussed in this paper involve fundamental weaknesses in the administration of most consumer finance surveys. One major problem is that small sample surveys (even with samples of several thousand households) tend to report estimates of inequality which are biased downwards because groups at both extremes of the income spectrum tend to be underrepresented and hence, the sample is more homogenous than the population being sampled. While on the average, wealthy individuals may be fairly represented in samples, the odds that any individual survey contains rich individuals in its sample are very small because the latter constitute rare events in a statistical sense. Even if sampled, such individuals are much more likely to refuse to be interviewed. Very low income individuals are not as likely to be sampled because they tend to have irregular living arrangements without fixed addresses. The proper selection, training and supervision of interviewers is central to the validity of the data when the interviewers are called upon to estimate household income by separately estimating consumption and production expenses (and distinguishing capital acquisitions from ordinary outlays). It is very difficult to assess the uniformity of interviewer quality or supervision across surveys.

The definition and measurement of income is a fundamental problem, and few surveys employ exactly the same definitions. Even if the stated income concepts appear the same, the treatment of specific components of income or expenses may vary substantially, and it is difficult for the researcher to ascertain this from the survey reports. One difficulty in comparing surveys with different income definitions is that the broader the measure of income, the more equal the resulting income distribution (Kusnic and DaVanzo, 1980). Likewise, the broader the concept of income, the greater the problems of definition and measurement. While even net money income is difficult to uniformly calculate for households of cultivators and shopkeepers (who do not generally employ standard accounting concepts), imputing the value of items such as the value of owner-occupied housing can present almost insuperable problems, and it is almost impossible to ensure perfect consistency. Estimating the value of certain government subsidies or free goods can likewise raise problems. In an agrarian society, seasonality of

income is an important issue which may affect comparability of data between surveys, an issue which the authorities in Sri Lanka have not addressed fully. Finally, an uncertain or threatening political climate may seriously prejudice the cooperation of respondents, particularly higher-income respondents. This factor is particularly important in the case of Sri Lanka.

I. SURVEY DIFFERENCES

The primary sources of data on intertemporal changes in income distribution in Sri Lanka are the three Sample Surveys of Consumer Finances, conducted by the Central Bank of Ceylon at ten year intervals in 1953, 1963, and 1973. It is unusual for survey data on income distribution to be collected by a single agency over such a long period of time in a developing country, and it was the optimistic presumption on the intertemporal comparability of data that led me to examine the published reports and statistical tables for these surveys. However, my findings turned out to underscore the wisdom of Sudhir Anand's warning about "the dangers of making intertemporal inequality comparisons without adequate research into comparability of the underlying data," (Anand, forthcoming). After having concluded independently that the distribution of income did not improve unambiguously in Sri Lanka, I discovered that Lee (1977) had reached a similar, albeit much stronger conclusion via a somewhat different path.

Another frequently cited source on income distribution in Sri Lanka is the Socio-Economic Survey (SES), carried out by the Department of Census and Statistics in 1969-70. While obvious differences with the Central Bank of Ceylon surveys such as the exclusion of single person households from the Socio-Economic Survey vitiate the usefulness of comparisons with the other surveys, the SES data set is probably the best single source of income distribution in Sri Lanka. The reader is referred to Richards and Gooneratne (1980) for a thorough analysis of this data and to Pyatt and Roe (1977) for an interesting application of the SES data to the development of social input-output matrices for Sri Lanka. .

A. Overview 1953-1973

Before exploring discrepancies among the three Central Bank of Ceylon surveys, it is appropriate to first examine the different patterns of income distribution indicated. In all three surveys, incomes are reported gross of income tax and include the imputed value of self-consumption and income received in kind. Table 1 lists the income shares by ranked deciles of "spending units" in Sri Lanka for all three surveys. These figures indicate that between 1953 and 1963, the income shares of both the highest decile and lowest two deciles declined substantially, matched by equivalent increases in the income shares of the sixth through the ninth deciles. In other words, the "middle income" groups seem to

have gained at the expense of both the poor and well-to-do. Furthermore, an analysis of the highest monthly income intervals reveals that the decrease in income share within the top decile between 1953 and 1963 was entirely concentrated within the top one-half of one percent in spending units, while the bottom four-fifths of that decile appear to have enjoyed a substantial increase in income share (Ceylon, 1954: table 21; 1964 II: 251). Whereas the 1953-1963 period was at best one in which the non-poor and the affluent gained at the expense of the rich, the figures in Table 1 indicate that between 1963 and 1973, the bottom eight deciles gained in income share at the expense of the top decile and that the poor gained the most proportionally. It is this latter period of supposedly dramatic income redistribution in Sri Lanka which has attracted the most attention and which will constitute the focus of this paper.

TABLE 1

The Distribution of Income by Ranked
Deciles of Spending Units

	1953	1963	1973
First Decile	1.90	1.50	2.79
Second Decile	3.30	2.95	4.38
Third Decile	4.10	4.00	5.60
Fourth Decile	5.20	5.21	6.52
Fifth Decile	6.40	6.27	7.45
Sixth Decile	6.90	7.54	8.75
Seventh Decile	8.30	9.00	9.91
Eighth Decile	10.10	11.22	11.65
Ninth Decile	13.20	15.44	14.92
Tenth Decile	40.60	36.77	28.05

SOURCE: Central Bank of Ceylon, 1954; 1964; 1974.

While the extent of reported income redistribution between 1953 and 1963 was modest, there are reasons to question the significance of even this finding. First, the Korean War export boom years of 1952 and 1953 were exceptionally prosperous ones for the small number of large taxpayers in Sri Lanka as indicated by the fact that income tax revenues were 60 percent larger in 1952/53 than they had been in 1950/51 with constant rates of taxation (Snodgrass, 1966; 191). Second, the definition of spending unit employed in the 1953 survey differs somewhat from that used in both 1963 and 1973 (Ceylon, 1964; 12) and the mean number of income receivers per spending unit fell from 2.0 in 1953 to 1.6 in 1963 among the top decile of spending units (and from 2.8 to 1.7 among just the top

percentile) while changing only a little or not at all among lower deciles (Ceylon, 1954: table 22; 1964: 70). This change may have biased downwards the reported income share of the reported richest households, because it implies less reduction in the average income per income earner within these spending units.

There are a number of other differences between the 1953 and 1963 surveys which have an indeterminate effect on the reported change in income distribution. The 1953 survey sampled about a thousand households in a single-stage stratified sampling procedure as opposed to the 1963 and 1973 surveys which each sampled five thousand households with a two-stage sampling procedure. The response rate for the income schedule in 1953 was only 88 percent compared with reported response rates of 96 percent in 1963 and 99.9 percent in 1973 (Ceylon, 1964: 21; 1974: 14). In 1953, respondents were asked to report their income during the month prior to the survey. In both the 1963 survey and the 1973 survey, the reference period consisted of the two months preceding the survey date.

A number of factors contribute to the doubtful comparability of data between the three surveys; no blame necessarily lies with the Central Bank of Ceylon staff for any of them. One of the most important factors weakening the comparability of data is the extraordinary political climate of 1972/73 induced by government threats to confiscate or severely tax many forms of wealth, which led to increased underreporting of income. Similarly, the accelerating price inflation and shortages of goods characterizing these years made the work of the survey staff much more difficult. Those changes in sampling design, definitions and measurement techniques which may have biased reported changes in inequality reflect the tradeoff between consistency and progress in survey design. Understandably, those responsible for a particular survey are most concerned with making their survey as good as possible, and in many cases, this involves adopting new practices in place of those used in previous surveys.

B. Sampling Errors, 1963 and 1973

Biases in the data from the 1963 and 1973 surveys can be classified as attributable to sampling errors, non-sampling errors, or changes in definitions and the implementation of the survey. With respect to sampling errors, the 1973 survey should have been less subject to bias than the 1963 survey for at least two reasons. First, the reported response rate was closer to unity in 1973 (implausibly so). Second, the sampling frame of the 1973 survey was probably superior to the one used in 1963. The urban and non-estate rural sectors were sampled in 1963 on the basis of a list of households maintained by the Food Commissioner for the

purpose of distributing free rice rations. In the estate sector, only a list of individuals was used for this purpose. The 1962 Food Commissioner's lists were not complete in their coverage as they totalled seven percent less than were reported in the 1963 census (Ceylon, 1964: 5). In 1973, the Central Bank used census blocks drawn up for the census of 1971 as the unit for the first sampling stage, thus hopefully, eliminating the problem of undercounting in using the Food Commissioner's lists. However, low-income housing units of a temporary nature established subsequent to the 1971 census (or missed by it) may not have been at risk to be included in the 1973 survey sample. Hence, it is not clear for the non-estate sectors whether the bias towards lower inequality was greater in 1963 or in 1973.

The sampling of the estate sector presents a special problem because the Food Commissioner did not maintain a list of households in the estate sector, only a list of individuals. In 1953, the Central Bank staff decided to use the Commissioner's list of individuals for the estate sector to select households to be sampled, thus creating a bias due to larger households having a greater probability of being picked. This bias would probably be in the direction of greater equality because, other things constant, larger families have higher total incomes. In 1963, the Central Bank staff decided instead to use a list of individuals provided by the estate sector's Employee Provident Funds. In low-income estate households, men, women and children are all likely to be employed whereas higher income estate households are more likely to have only one estate employee. Furthermore, certain estate residents are employed in non-estate activities (handicrafts, commerce, government service, etc.) at incomes on the average well above the median of estate workers. Hence, in 1963, relatively few high-income households (that is, those with managerial level employees or non-employee breadwinners) were included in the sample and inequality within the estate sector was biased downwards. The use of census blocks for the first stage of the sampling procedure in 1973 eliminated both biases and is presumably responsible for the rise in the Gini coefficient for the estate sector from 0.27 in 1963 to 0.37 in 1973. The authors of the report on the 1973 survey detected the existence of only the first bias (the underrepresentation of managerial employees) in 1963 (Ceylon, 1974: 68). The reduction in overall inequality between 1963 and 1973 was biased downwards by this switch, a bias which offsets some of the many other biases listed in this paper which worked in the opposite direction.

While the 1973 survey would seem to be less susceptible to sampling errors than the 1963 survey, there are a number of discrepancies which are difficult to explain and which may reflect biases in the composition of the 1973 sample

leading to an understatement of inequality in 1973. Most notably, the fraction of individual income receivers recorded as having "higher" education (i.e., beyond the GCE/SSC) was 2.6 percent in both 1953 and 1963, but in the 1973 survey it fell to 1.1 percent (Ceylon, 1954: table 19; 1964 II: 70-90; 1974: 79). Since, as of the last survey, individuals in this category had on the average five times the income of those with no schooling (down from previous years), this discrepancy might account for a sizeable part of the observed reduction in the income share of the top decile. While it is not good practice to make generalizations on the basis of very small samples, certain groups seem to have been undercounted among high-income respondents in 1973. In particular, in 1963 the top twenty-eight income receivers included three manufacturers, while in 1973 the top thirty individual earners included only one such individual. Yet the fraction of sampled urban income receivers in manufacturing rose from 9.3 percent in 1963 to 14.2 percent in 1973. Three individuals in the 1963 sample (all resident in the Colombo area and employed in commerce) who together received the majority of rental income in the top income category had rent as their primary source of income (Ceylon, 1964 II: 161). In the 1973 sample, there were no well-to-do rentiers at all.

C. Non-Sampling Errors

The problem of non-sampling errors is the most critical one in assessing the reliability of the Central Bank survey data, and there are a number of reasons to believe that the 1973 survey was plagued by biases leading mostly to an understatement of inequality in 1973. It is certain that underreporting of income was much more serious in 1973 than in 1963. Richards and Gooneratne (1980: 36) report that estimated income coverage fell from 67.5 percent of GDP in 1963 to 61 percent in 1973, despite the inclusion in 1973 of the imputed value of the free rice ration which raised total 1973 income by six percent relative to 1963 income. Moreover, private consumption was 72 percent of GDP in both 1965 and 1972 (World Bank, 1980: 180-81), so that the apparent degree of underreporting income more than doubled between 1963 and 1973. It is my contention that much of the increased underreporting consisted of asset income not reported by affluent households.

The most important factor accounting for the increased underreporting of rental income by the affluent in 1973 is the climate of insecurity brought about by certain measures the government under Madame Bandaranaike announced in 1972. In particular, the government initiated a limited land reform program and announced the future implementation of both an annual capital levy and an after-

tax disposable income ceiling of Rs. 24,000 for an individual (a ceiling which would affect only a fraction of the top percentile of income receivers). The Land Reform Act of 1972 could not have had any direct impact on rental income covered in the survey, as almost no tenanted land was affected by the legislation (Sanderatne, 1975; Pieris, 1978). More importantly, "the uncertainty that undoubtedly was created by the promulgation of the 1972 Act would have created an incentive for landowners to understate their incomes when enumerated in official household income surveys." (Lee, 1980: 170). In 1963, 16.1 percent of the income received by the top 1.8 percent (receiving over Rs. 1200 for two months each) consisted of rent (both the imputed value of own housing and rental receipts) (Ceylon, 1964 II: 144). In 1973, the share of rent in the total income of these top 1.8 percent (receiving over Rs. 1600 for two months each) was only 6.4 percent (Ceylon, 1974 II: 262), a sharp decline in both absolute and relative terms which cannot be fully accounted for by specific government measures.

Nervousness over potential government confiscatory taxation probably also accounts for a major part of the sharp reduction in reported dividend and interest income among the richest groups in 1973. While it is true that the Central Bank share index fell in nominal terms by 37 percent between 1963 and 1973 (Lee, 1977: 174), there was only a slight fall in the reported share of dividends and interest in total income from 1.9 percent of total money income, according to the 1963 survey to 1.7 percent in 1973. The real phenomenon is the drastic and unbelievable reduction in the share reported by the rich. In 1963, the top 0.4 percent of income receivers (each receiving over Rs. 3000 for two months) had 44 percent of total reported dividend and interest income in the sample (Ceylon, 1964 II: 144). In 1973, the top 0.4 percent (each receiving over Rs. 3000 for two months) reported receiving slightly under ten percent of all dividend and interest income (Ceylon, 1974 II: 262). Evidently, high-income individuals subject to the announced income ceiling and capital levy were either reluctant to reveal the true extent of their wealth to government investigators or they had already redistributed at least nominal ownership of such assets to other family members.

While the incomes of the rich were clearly subject to more underreporting in 1973 than in 1963, the opposite seems to have been true for many lower-income groups. This is most clearly demonstrated in the case of those employed in 'Personal Services.' The mean income for two months in this category rose from Rs. 157 in 1963 to Rs. 342 in 1973, or Rs. 225 in 1963 prices (see discussion in Part II on price index), amounting to a 43.3 percent increase in real terms (Ceylon, 1964: 99; 1974: 95). The authors of the 1963 report (Ceylon, 1964: 99)

acknowledge that incomes of those employees (mostly domestic servants, hotel and restaurant workers) were underestimated by a particularly large fraction. In 1953, the income for two months in this industry category was on the average Rs. 151. For comparison, the mean income of the whole sample for two months in 1953 was Rs. 215, in 1963 Rs. 267, and in 1973 Rs. 455. In other words, the ratio of mean income in 'Personal Services' to the mean for the whole sample fell from 70.2 percent in 1953 to 58.8 percent in 1963, and then rebounded even more sharply to 75.2 percent in 1973. This category accounted for 10 percent of all income receivers in the 1973 survey, so that the greater underreporting of their income in 1963 may have had a sizeable effect on the observed change in inequality between 1963 and 1973.

D. Changes in Definition and Implementation of Survey

The most clear-cut case of bias induced by a change in definition is the inclusion of the imputed value on the free government rice ration in the 1973 survey. In 1963, the government permitted individuals to purchase four pounds of rice per week at a low, subsidized price. In 1973, the rice ration consisted of one two-pound measure of rice per week provided free of charge to each man, woman, and child over the age of one year and a second measure made available at a subsidized price. In 1973, the Central Bank of Ceylon survey staff included the free ration as income in kind and valued it at the price of the second, subsidized measure. During the course of the 1973 survey, the price of the second measure was increased by a third (Gavan and Chandrasekera, 1979: 28), and the interviewers were instructed to accordingly raise the imputed value of the rice ration for the remaining households to be interviewed (Ceylon, 1974: 53). Not only were the reported incomes of households "raised" by this serious decline in their purchasing power, but households enumerated earlier had lower reported incomes because of this procedure!

Most importantly, as the imputed value of the rice ration constituted six percent of the total income in the 1973 survey, and as this ration was fairly evenly distributed, its inclusion substantially equalized the reported income distribution. The staff of the Central Bank of Ceylon (1974: 65) estimated that the Gini coefficient for spending units would have fallen only from 0.45 to 0.37 instead of to 0.35 if the rice ration had not been included in 1973. In other words, one-fifth of the supposed decline in income inequality among households in Sri Lanka between 1963 and 1973 is attributable to this one definitional change which has been heretofore ignored in analyses of income redistribution in Sri Lanka. The

actual impact of the subsidy was similar in both years. In 1963, the two measures of rice cost a total of 50 cents. At the beginning of 1973, one measure was free and the second measure cost 75 cents (which was raised in February to one rupee) (Gavan and Chandrasekera, 1979: 28).

Another definitional change which may have had an impact on the observed change in income distribution between 1963 and 1973 was an adjustment in 1973 for seasonality. For the 1973 survey, the Central Bank staff (1974: 54) decided to smooth out seasonal fluctuations in the income of cultivators by taking one third of receipts from paddy cultivation for the preceding six months and counting it as income for the two month reference period. The 1963 survey had been conducted during March and April around the time of the major paddy harvest (Ceylon, 1964: 20), but the 1973 survey was carried out in January and February before the harvest had been brought in. Hence, without the adjustment, paddy cultivators in 1973 would have been reported as having little income. The degree to which the seasonal adjustment offsets the reduction in income caused by the change in timing is not clear, and the direction of the resulting bias, to the extent that there is any, is likewise uncertain.

The change in the timing of the survey between 1963 and 1973 may have been crucial for raising the reported incomes of landless wage laborers; the months of November and December are considered to be months of heavy demand for labor in rural Sri Lanka, while January and February on the other hand are considered to be months of slack (Ceylon, 1974: 14). The importance of seasonality as a possible source of bias can be checked, as the 1963 survey asked for income during the previous twelve months and the 1973 survey asked for information on income during the prior six months. In 1963 the lower 52.7 percent of income receivers received 22.0 percent of all income for twelve months but only 19.1 percent of income for the two month reference period (Ceylon, 1964: 62), while in 1973 the distributions for two months and for six months were essentially identical (Ceylon, 1974: 55). The fact that seasonality of income seems to have been less of a factor in 1973 (whether due to the change in the timing of the survey or to the adjustment for seasonality) suggests that much of the reported gain in the income share of the poor between 1963 and 1973 may have been illusory and that the observed reduction in inequality at best substantially overstates the actual change.

A third definitional change involves the inconsistent treatment of transfer payments between surveys. Each of the surveys counted transfer payments, including both pensions and gifts, as income. But in 1953, transfers constituted

4.0 percent of total income in the sample, while in 1963 their share fell to 2.9 percent, and in 1973 after subtracting the rice ration, they constituted 8.4 percent of all income (Ceylon, 1964: 102; 1974: 96). At all three dates most transfers were gifts. The authors of the 1973 report (Ceylon, 1974: 96) attempt to account for the increase by noting that "In the procedure adopted for the survey, the money received by a woman from her husband living away from home for reasons of occupation, for instance, was treated as transfer income. This procedure to some extent will explain the high percentage." It is not clear to what extent this represents a spurious equalization, but the probable magnitude is quite small. The increase in the category of transfers between 1963 and 1973 is also due in part to a fourfold increase in the reported share of pensions from 0.4 percent to 1.6 percent of income (Ceylon, 1964 II: 144; 1974: 97). This had a slightly disequalizing effect as pensions are heavily concentrated within the top decile of income receivers. However, this increase in pension income does not seem to reflect any real phenomenon. Total government pension payments increased in nominal terms by only 3.7 percent a year between 1963 and 1971, well below the rate of increase in other components of income (Lakshman, 1975: 71).

It is possible that the accuracy of the survey in 1973 was reduced because of fewer well-prepared interviewers, but this is only a supposition. In 1963 the primary field investigators consisted of 500 inspectors of local cooperative societies who were said not only to be knowledgeable about family budgets and production expenses but often acquainted with the finances of the particular households they were interviewing. Besides receiving special training, the investigators received close supervision from experienced field supervisors at the Department of Census and Statistics (Ceylon, 1964: 14-15). The 1973 survey used 500 schoolteachers as field investigators, and these teachers received supervision from regular Central Bank field workers (Ceylon, 1974: 12). Although the schoolteachers received some instruction in interviewing and were carefully supervised, it might be argued that they were less experienced with estimating expenses than were the inspectors in 1963. This factor is particularly crucial in Sri Lanka because for the majority of respondents (especially farmers, fishers, and shopkeepers), the investigators were themselves obliged to estimate production expenses in order to calculate net income. The report on the 1973 survey fails to mention why cooperative society inspectors were not used again in 1973, although schoolteachers are widely used elsewhere as interviewers and in rural Sri Lanka schoolteachers are typically petty landowners.

E. Summary

Estimating the individual contribution of each factor discussed above to the bias in observed income redistribution in Sri Lanka between 1963 and 1973 is not only difficult to do but is of dubious validity as well. Nevertheless, I will try to give rough indications for three of these factors. First, fully one-fifth of the reported reduction in inequality is attributable to the inclusion of the rice ration as income in the 1973 survey. Second, the reduction in seasonality (for whatever reason) had a major impact on the incomes of the poor. The figures cited above suggest that almost half of the increase in the income share of the lower five deciles (roughly three percentage points out of an increment less than seven points) can be attributed to this factor. Third, the reduction in non-labor income which is attributable in large part to increased underreporting of income had a major impact on the incomes of the rich. In 1963 the rich (defined here as the top 0.4 percent of income receivers) received 7.2 percent of all income, 6.4 percent of all income minus rent and gifts, and 5.7 percent of all income minus rent, gifts, dividends, and interest (Ceylon, 1964 II: 144). In 1973 the share of the rich in total income was essentially identical to their share of income minus rent, dividends, interest, and gifts (4.27 and 4.23 percent respectively) (Ceylon, 1974 II: 262). Half of the reduction in the income share of the rich is thus accounted for by the implausibly drastic decline in their reporting of such income. (This ignores the returns to property embedded in proprietors' earnings which can not be separated from labor income.) The arguments discussed below in Part II challenging the idea of dramatic income redistribution may be more convincing, but the point of Part I has been to demonstrate how one could reconcile the notion of stability in income redistribution with the income data from the Central Bank of Ceylon consumer finance surveys.

II. EXAMINATION OF DATA

A. Physical Consumption Data

If income had indeed become more evenly distributed in Sri Lanka -- as is usually said to have been the case -- then one should expect to find confirmation of this fact in substantially improved living standards for the poor. The report on the 1973 survey asserts that mean income per income receiver rose by 12 percent between 1963 and 1973 in real terms (which is consistent with national accounts statistics) while, because of the reduction in inequality, the increase in median real income for income receivers was supposedly a much larger 43 percent

(Ceylon, 1974: 56). Contrariwise, if the distribution of income had worsened during this period as Lee has alleged, then with either constant or rising total income one should observe increases in the consumption of the well-to-do and decreases in the consumption of low income groups. The data does not unambiguously support either position. I suspect that both the total amount of income in real terms and the distribution of income was equivalent at both the beginning and the end of the period. Ironically, one prominent source among those proclaiming a decline in income inequality in Sri Lanka (Marga, 1974: 26) maintains at the same time that the incomes of the majority failed to keep up with the cost of living and that there was a spurt of prosperity among the elite!

The first category of survey data on living standards consists of information about the housing stock. The proportion of dwellings recorded in the Central Bank surveys as not having any form of latrine increased from 32 percent in 1963 to 41 percent in 1973 while the percentage of dwellings recorded as having piped water inside the dwelling declined from 21.0 to 13.1 in urban areas, from 2.0 to 0.7 in rural areas, and from 6.0 to 5.7 in the estates (Ceylon, 1974: 50). These numbers are unrealistically gloomy, for the 1963 and 1971 population censuses do not indicate any clear deterioration in the quality of the housing stock; rather the per capita availability of housing was about the same in 1971 as it had been eight years earlier (Karunanayake, 1973). But if the incomes of the majority had indeed risen in real terms, then one would have expected them to spend at least part of the increment on improving or replacing their own homes.

The other major type of data on physical consumption consists of information on specific food items. Lee (1977: 181) suggests that ". . . consumption data, especially when expressed in terms of physical volume rather than in value terms are likely to be more reliable than income data." This may be valid as a general rule, but the Central Bank of Ceylon consumption and expenditure data have serious drawbacks from the viewpoint of comparison between surveys. The problems with consumption data in money terms will be addressed below. The food item consumption data is based on information asked about a one-week reference period (which are then blown up to the equivalent of two months consumption) and is subject to wide fluctuations in the consumption of specific items and to reporting errors. In particular, the consumption per person of meat is supposed to have fallen 63.8 percent, that of eggs by 31.1 percent, and that of milk by 23.8 percent while the cross-sectional income elasticities for these three items calculated with data from the 1963 survey were 1.89, 1.70, and 1.41 respectively and price increases were in line with other items (Ceylon, 1974: 107-08).

This gloomy picture of sharply declining consumption (from already-low levels) of high-protein foods at all income levels is not consistent with either the standard interpretation of income distribution trends or Lee's revisionist hypothesis. For if income had become more equally distributed, then the poor should have increased their consumption of these items; on the other hand, if income had become less equally distributed, then the consumption by the rich should have risen. However, these numbers should not be given particular credence. Aggregate data indicates that while egg production underwent a substantial expansion, milk production appears to have more than kept up with the growth in population, and only meat production seems to have stagnated (United Nations, 1979: 113, 136, 238).

The most serious diminution in food consumption indicated by the Central Bank survey data is a reported 15 percent decline in per capita consumption of rice, a decline which is also reflected in official food balance sheet figures. It has been suggested that the 1973 survey may have underestimated rice consumption relative to the 1963 survey because it was conducted prior to the primary paddy harvest (United Nations, 1976: 305). But there were also substantial declines reported in the 1973 survey in the consumption of rationed rice, both free and purchased. The sharp rise in the price of rice stimulated a substitution to other starchy foods (chiefly manioc for the poor and imported wheat flour for the non-poor) and there seems to have been a partial breakdown in government's free deliveries of rice in 1973, especially in the estate areas (Richards and Gooneratne, 1980: 43). It is also said that the poor sometimes sold their ration cards (Gavan and Chandrasekera, 1979: 1979).

All available data points to a modest worsening of the nutritional situation between 1963 and 1973 which was entirely concentrated in the years after 1969/70 (United Nations, 1976: 309). This phenomenon is consistent with a picture of stagnation in total personal income and no marked improvement in income distribution, but it is not consistent with the rosy picture of steadily rising average real income and equalizing income redistribution which is found in official and quasi-official reports. Neither is it fully consistent with Lee's depiction of increasing inequality despite the fact that the consumption of rice seems to have fallen by much larger amounts at lower income levels (Lee, 1977: 162). Lee ignores the substitution of lower cost food items by the poor. (The production of manioc more than doubled between 1970 and 1974 according to Richards and Gooneratne, 1980: 49). Also, while the well-to-do did not reduce their consumption of cereals much, their consumption of sugar and other "luxury" foods

according to the Central Bank survey data, seems to have fallen by proportions similar to those experienced by lower income groups.

B. Expenditure Data in Money Terms

Lee's claims of rising inequality in Sri Lanka are based primarily on expenditure or consumption data in money terms provided in the Central Bank surveys. For example, Lee (1977: 165) has asserted that ". . . expenditure on consumer durables, a category of expenditure associated with the rich, increased very sharply over this period. The share of total expenditure devoted to consumer durables increased from under 0.5 percent in 1963 to 6 percent in 1973." In fact, no shift of this magnitude seems to have taken place, and the increase that did take place is not attributable to higher incomes among the affluent. The non-food expenditure data for both 1963 and 1973 are based on questions about expenditures during a two-month reference period with one exception. In 1973, the survey included with the expenditure on other items for two months ". . . the expenditure incurred on purchase of consumer durables during the six months immediately preceding the survey" (Ceylon, 1974: 100), thus apparently tripling the share of consumer durables in total expenditure.

There are a number of other reasons to discount the apparent increase in spending on consumer durables. First, the 1963 survey seems to have paid little attention to consumer durables, for not once are the latter mentioned in the survey report for that year. Furthermore, the percentage of expenditures on consumer durables had reasonably been figured to be 3.2 in 1953 compared with 0.4 in 1963 and 6.0 in 1973 (Ceylon, 1974: 101). The artificially low level of such expenditures recorded in 1963 may be attributed to the sudden imposition of import controls in 1961 which had the effect of reducing the import volume of consumer goods by 70 percent between 1960 and 1962 (Snodgrass, 1966: 220). Finally, an increase in the consumer durable expenditure share may be due in part to higher price increases on these goods because of increased import duties.

Information on the stocks of selected consumer durables is mixed, but it appears that real expenditures on such items did not increase markedly. In 1963 20 percent of surveyed households had radios and 22 percent had sewing machines, the two most widely-owned household durable goods. In 1973 the two figures were 25 percent and 26 percent, respectively. As for more elite items, the fraction of surveyed households with refrigerators was about one percent in both years, and the proportion of households with telephones is said to have actually dropped from 0.8 percent to 0.3 percent (Ceylon, 1964: 60; 1974: 52). This last item reflects

poorly on the quality of the Central Bank survey data, for the total number of telephones in the country rose from 41,000 in 1963 to 65,000 in 1973 (United Nations, 1966; 1979). It is not clear to what extent this increase consisted of private telephones, but most of the increment in motor vehicles in Sri Lanka during this period consisted of commercial vehicles, and the number of passenger vehicles per person actually decreased. The increase in radios (from 406,000 in 1963 to 515,000 in 1973) was only sufficient to keep up with population growth so that the availability of radios was roughly constant at 38 radios per 1000 people.

The "expenditure" data from the Central Bank of Ceylon surveys present a picture of income redistribution in Sri Lanka very different from that indicated by the income data. Lee (1977: 166) lists figures on total expenditure per household in money terms (both actual expenditures and the imputed value of own consumption) for quintiles of spending units for both 1963 and 1973. These figures indicate that the middle three quintiles had roughly comparable increases in aggregate consumption but that the poorest quintile had a major relative decline which was matched by an expansion in the share of the highest quintile. The consumption of the highest quintile would seem to be biased upwards by the special treatment of consumer durables in 1973, but this would certainly not be sufficient to account for most of the discrepancy. As there is no firm evidence of the superiority of the consumption data over those numbers indicating an improvement in income distribution, the conservative approach would be to treat both with great caution.

It is not clear which set of data should be given more credence, and for 1963 at least the two sets of data appear to be incompatible with each other. The 1963 survey reports an average two-month expenditure of Rs. 185 for spending units with a two-month income between Rs. 50 and 100, while households with over Rs. 3000 income ostensibly had consumption expenditures of only Rs. 2069 (Ceylon, 1964 II: 262). Yet the former are supposed to have had a dissaving rate of only 22.1 percent and the latter a saving rate of 4.3 percent (Ceylon, 1964: 125). The 1973 data are much less extreme in this respect. Those spending units with a two-month income between Rs. 50 and 100 are reported as having average total expenditure of Rs. 110, while those with incomes over Rs. 3000 are said to have had average consumption expenditure of Rs. 3248 (Ceylon, 1974: 102).

C. Wage and Price Data

Data series on money wages and consumer prices have been used by Lee to buttress his argument that income inequality probably worsened in Sri Lanka between 1963 and 1973. However, as Lee (1977: 168) acknowledges, almost all

categories of workers appear to have suffered declines in real wages during this period, so that it is difficult to see who could have been gaining from the allegedly growing inequality of income. Moreover, for the government sector it appears that nominal wages may have lagged behind prices the most at the more skilled levels (Richards and Gooneratne, 1980: 45). In particular, the real wage index for senior and middle-level civil servants fell from 112.4 in 1963 (1952 = 100) to 98.6 in 1973, that for school teachers fell from 107.9 in 1963 to 87.3 in 1973, and that for most of the unskilled central government employees was 120.3 in 1963 and 120.7 in 1973. Certainly this data does not support the idea of increasing income inequality, rather they are more consistent with the income survey data pointing towards a reduction in income inequality. However, they are too partial to be anything more than suggestive.

More controversial than the data on money wages is the price data used to calculate the real wage indices. There seems to be a consensus to the effect that the official Colombo Consumer's Cost of Living Index grossly underestimated the real extent of inflation during the late 1960s and early 1970s (Gunasekera, 1974: 80; Lee, 1977: 178). The problems with this index include unrealistic consumption weights and attempts by the government to keep down the official price level through price controls and subsidies which were only limited in their effectiveness. Furthermore, the "rent" category appears largely spurious, consisting of the assessed value on a fixed sample of "working-class" houses in Colombo rather than actual rents paid (Snodgrass, 1966: 397). Thus, the real incomes of workers fell by even more than is suggested by official indices. A more serious problem is that a single price index can not reflect the differential rates of inflation experienced by diverse groups based on their consumption of various bundles of goods and services, a problem Lee refers to in an attempt to resolve the discrepancy between the income and expenditure or consumption data.

Lee (1977: 181) claims to have developed "an alternative explanation" such that "the discrepancy between the two sets of data is resolved." This explanation is based on the idea that between 1963 and 1973 the price of "wage goods" rose more rapidly than the overall price level (thus depressing the consumption of the poor disproportionately) and on the notion that the incomes of low income cultivators were artificially inflated by the rise in the price of rice which the poor supposedly consume out of their own production (Lee, 1977: 180). Both arguments are at best greatly overstated and most likely not valid. First, the Colombo price index is not "an average index for all income groups" but rather was designed to reflect a typical working class budget. Second, even Lee's (1977: 180) own

calculations show little difference among the price indices derived for income-specific consumption weights -- the 1973 value of the index ranges only from 141 for the lowest income class to 135 for the highest. It has been argued in the opposite direction that the Colombo price index greatly understates the rate of inflation for high-income groups relative to low-income groups because the greatest price increases are said to have occurred on elite goods which are not present in the typical working class budget (or the index) (Snodgrass, 1966: 397). Finally, most income from rice accrues to those in the upper half of the rural income distribution, while most of the lower 40 percent of rural households own no paddy land and consume mostly rationed or purchased rice despite Lee's erroneous claim that ". . . the imputed value of self-consumption of rice is a predominant part of the consumption of the poor." Hence, we are left with a major and unresolved discrepancy between the income and consumption data from the 1963 and 1973 Central Bank of Ceylon Surveys of Consumer Finances.

III. OTHER FACTORS INFLUENCING CHANGES IN INCOME DISTRIBUTION

No discussion of trends in income distribution is complete without some mention of possible influences upon these trends. However, it is all too easy to come up with multiple explanations for any phenomenon, as I unwittingly demonstrated at one point by writing a facile analysis presenting all sorts of reasons for why the distribution of income should have become more equal in Sri Lanka between 1953 and 1973. In this section I will limit myself to discussing potential consequences for change in income distribution by the decline of estate agriculture, the expansion of paddy cultivation, and the increase in open unemployment. One factor which I do not believe is important in this respect is the slow rate of growth in per capita income. Various claims have been made as to whether a high rate of growth causes income to become more or less equally distributed, but the safest conclusion is that the rate of growth per se probably has no effect independent of the form growth takes (Ahluwalia, 1974: 6).

The most striking economic phenomenon in Sri Lanka between the early 1950s and the early 1970s was the disastrous decline in the world prices of tea and rubber, the two dominant export items. The terms of trade index for Sri Lanka fell from 162 in 1955 to 65 in 1973 (with 1967 = 100) as the prices of tea and rubber fell and the price of imports, chiefly food and petroleum, climbed precipitously in the early 1970s (De Silva, 1977: 163). Consequently, the share of exports in GDP fell from 34 percent in 1959 to 18 percent in 1973 and the share of

imports fell from 37 percent to 19 percent during the same period (Pyatt and Roe, 1977: 31).

Traditionally the upper class in Sri Lanka depended upon exports for much of their income and upon imports for much of their consumption. Hence, the virtual bankruptcy of foreign trade has surely caused serious harm to the welfare of the rich since 1955, thus contributing to an equalization of income distribution. However, as most export income during this period was divided between the Sri Lankan government and British-owned firms, this factor should not be overemphasized. In fact, the decreased profitability of the tea and rubber estates caused British firms to sell out to Ceylonese investors, so that the percentage of acreage held by non-Ceylonese fell between 1948 and 1972 from 69 to 30 percent in tea and 38 to 13 percent in rubber (Pieris, 1978: 613). This transfer of assets presumably had a unbalancing effect on the distribution of wealth among those residing in Sri Lanka which would offset the equalization caused by the decreased worth of those assets already held by Ceylonese. Also, the decline between 1953 and 1963 in export income was preceded by a equivalent increase from 1950 to 1952 in export earnings, so that much of the observed decline was illusory.

The other major agricultural sector, paddy cultivation, has undergone many changes but the effects on income distribution are not clear and in balance are probably minor. Between 1952 and 1972 the total production of paddy increased from 593,400 tons to 1,291,600 tons. The area devoted to paddy cultivation and the average yield both expanded by about one-half during this period, thus accounting for the aggregate increase in about equal measure (Edirisinghe and Poleman, 1977: 34-45). Unfortunately, this impressive growth in output was offset completely by the increase in population size and decrease in import capacity. During the last half of the 1960s the output of paddy more than doubled, from 36 million bushels in 1965 to 77 million bushels in 1970 (Corea, 1971: 16) and there was much talk of a "Green Revolution" in Sri Lanka. But, 1965 output was abnormally low, 1970 output was abnormally high, and the illusion of sustained rapid progress was soon shattered. Output fell in 1971 and again in 1972 when output was one standard deviation below a 1952-1972 time trend (Edirisinghe and Poleman, 1977: 35). Paddy output fell even further in 1973.

The impact of changes in paddy production on income distribution are not clear. While the rise in paddy incomes (prices rose substantially after 1966) raised rural incomes relative to urban incomes, it is unlikely that the impact on the overall income distribution was equalizing, for most paddy income accrues to the upper half of the rural income distribution, and the majority of the poor in many

villages cultivate no paddy land at all. Lee (1977: 170-71) has suggested that demographic pressure has had an unequalizing impact through the fragmentation of holdings. He notes that the percentage of paddy holdings under one acre in size increased from 43 to 65 between 1962 and 1970 and that the Gini coefficient of the size distribution of holdings increased from 0.35 in 1962 to 0.41 in 1970. While these numbers are certainly consistent with the picture of increasing inequality depicted by Lee, their meaning is not as clear as it would be in a society where most of the population depended on paddy cultivation for a living. Large numbers of small paddy holdings in Sri Lanka are held by villagers who have completely non-agricultural occupations. Also, while the paddy holding size data points toward increasing inequality in rural areas, this may have been offset by other factors.

The unemployment rate rose steadily in Sri Lanka during the 1960s and early 1970s as a consequence of rapid population growth and slow economic growth. Official estimates of unemployment were roughly constant from 1946 to 1960 at about 10 percent of the labor force (Snodgrass, 1966: 102). The unemployment rate is said to have reached 14 percent in 1970 and 18 percent in 1974 (Pyatt and Roe, 1977: 27). Normally one would expect a high and rising rate of unemployment to lead to higher income inequality by increasing the pool of unemployed poor and by diminishing the bargaining power of labor relative to capital. Cross-nationally, one observes that a high rate of labor force growth is ceteris paribus related to higher inequality, presumably because the demand for unskilled labor is inelastic (Winegarden, 1980).

In the case of Sri Lanka a rise in the unemployment rate may actually have the effect of reducing measured income inequality. This is because most of the unemployed are educated young people who remain at home with their parents and who would otherwise be counted as independent low-income earners in the surveys. These unemployed are generally from middle income households, for the children of the poor in Sri Lanka do not receive much education. In 1963 the unemployment rate was estimated to be 13.8 percent of the work force on the basis of the Central Bank survey sample (Ceylon, 1964: 55). In 1973 the unemployment rate was estimated at 24.0 percent on the same basis (Ceylon, 1974: 48). But the unemployed are not generally counted as income earners unless they are heads of household; in the 1973 survey only 5.7 percent of income receivers are listed as being unemployed. It is not possible to estimate the extent to which this rise in unemployment may have led to a (spurious) reduction in reported income inequality offsetting the presumed disequalizing effect of the increased surplus of labor.

IV. CONCLUSION

We will never know for sure whether the distribution of income and consumption in Sri Lanka was somewhat more or less equal in 1973 than it had been in 1963 or in 1953 for that matter, although there is considerably more evidence in favor of the former than the latter. However, two things are clear. First, the bulk of the population were not demonstrably better off at the beginning of 1973 than they had been a decade earlier. Second, the distribution of physical consumption, especially food, has been relatively egalitarian in Sri Lanka compared to other South Asian countries (Gavan and Chandrasekera, 1979: 18; Gwatkin, 1979: 253; Richards and Gooneratne, 1980: 21-23). These facts suggest at least two generalizations. First, it should be standard practice to thoroughly scrutinize all claims of dramatic short-term movements in income inequality and to check them against independent measures of real living standards. Second, the evidence from Sri Lanka is consistent with the idea that income distributions are often stable and that the poor typically share in economic growth roughly proportionally to their share in the initial allocation of resources which diffuses some of the criticisms on cross-sectional comparisons (Bergsman, 1979: 9-12).

APPENDIX

One of the most puzzling changes in the composition of the 1963 and 1973 Central Bank survey samples involves the sizes of spending units. In both 1963 and 1973 spending units on the average had 5.3 persons in them, but at each end of the income spectrum there was a radical change in the size distribution of spending units. In 1963 the bottom 12 percent of spending units (each with less than Rs. 100 income for two months) had an average of 3.7 persons; in 1973 the bottom 12 percent (each with less than Rs. 250 for two months) had an average of only 2.6 persons (Table 2). In contrast, whereas in 1963 the top 2 percent of spending units (each with income over Rs. 1600) contained an average of 5.6 persons, in 1973 the top 2 percent of spending units (each with income over Rs. 2000) on the average had 6.8 persons. The report on the 1973 survey takes no recognizance of this phenomenon, one which is rather difficult to account for as there is no evidence of any marked change in living arrangements in Sri Lanka during this period.

The change in the size distribution of spending units means that the extent of equalization on household income between 1963 and 1973 may have been biased downwards. This is true regardless of whether it represents a real phenomenon or merely sampling or reporting errors, for in any case one would expect lower total incomes for smaller families. The average income of the lowest income category (3.6 percent in 1963, 3.3 percent in 1973) rose by 252 percent in nominal terms (prices officially rose by a little more than a half) but in per capita terms their income supposedly rose by 464 percent. In contrast, the average income of the top category of spending units (0.6 percent in 1963, 0.8 percent in 1973) fell by 7 percent in nominal terms while per capita income for this group fell by even more, 16 percent (Table 2).

Expressing both the consumption data and income data in per capita terms does not resolve the discrepancy between the two sets of data, but it does very much weaken Lee's claim of increased inequality. In particular, the reduction in the consumption share of the bottom quintile of spending units noted by Lee may be attributed entirely to the dramatic reduction in average household size for this group. As stated above, the average size of the bottom 12 percent of spending units fell by thirty percent between 1963 and 1973. Since the reduction in consumption share of the bottom quintile of spending units according to Lee (1980: 166) fell by one-fifth, in per capita terms the consumption share of the poor would not have fallen at all.

While most of the information in the survey reports is tabulated on the basis of individual income receivers, and the distributions of income among individuals

and spending units largely parallel each other over time, the usefulness of the individual distributions are undermined by the arbitrary procedure followed of allocating all non-monetary income such as imputed rent and household production to a single income receiver in each spending unit.

TABLE 2
DISTRIBUTION OF PER CAPITA INCOME AMONG SPENDING UNITS

Income Group	Number of Spending Units	Number of Persons per Spending Unit	Average Income per Spending Unit	Average Per Capita Income
<u>1963</u>				
0-50	193	3.0	33	11
51-100	484	4.0	76	19
101-200	1316	4.7	154	33
201-400	1898	5.6	293	53
401-800	1027	6.3	544	86
801-1600	368	6.3	1068	169
1601-2000	45	5.2	1751	337
2001-3000	34	5.5	2462	448
over 3000	34	6.1	4861	791
Total	5399	5.3	385	73
<u>1973</u>				
0-150	176	1.9	116	62
151-250	471	2.8	207	74
251-400	1189	4.5	330	73
401-700	2060	5.4	531	98
401-1200	1063	6.8	882	130
1201-2000	297	6.7	1486	221
2001-2500	42	7.0	2234	319
2501-3000	22	6.5	2752	423
over 3000	43	6.8	4530	667
Total	5363	5.3	622	117

Source: Central Bank of Ceylon, 1964: 70-71; 1964 II: 251; 1974: 57.

The 1954 volume consists of two sections, one of text and one of statistical tables without pagination. In 1964 and 1974 the Central Bank issued two separate volumes, a report and a volume of tables. Unless indicated by a "II", all references to 1964 and 1974 are to the report volumes.

All three survey samples were stratified on a geographic basis; none of them sought to utilize the principle of stratification to oversample high income households, a failing common to most similar surveys.

The estate sector refers primarily to the large tea and rubber plantations which provide the bulk of Sri Lanka's exports. The labor force consists mostly of poorly educated Indian Tamil workers, both male and female, who are mostly the offspring of immigrants from South India. The estate sector comprises a tenth of the total population and almost one fifth of the labor force.

In 1953 5.4 percent of employed estate residents were in non-agricultural (non-estate) occupations (Ceylon, 1954: Table 4). In 1963 this figure was reduced to 2.0 percent, earning 3.3 percent of total estate income (Ceylon, 1964 II: 224). In 1973 4.6 percent of estate income receivers reporting non-agricultural occupations (including shopkeepers, craftsmen, and teachers among others) received 7.2 percent of total estate income (Ceylon, 1974 II: 190-91).

The imposition of rent controls during this period would help to explain a decline in the relative share of rent both directly and indirectly through a substitution toward other investments, but the magnitude of the decline appears implausible. The House Property Law of 1973 which prohibited individuals from owning more than two residences (Gunasekere, 1974: 81) could not have directly affected the 1973 survey as it was enacted well after the survey was completed.

Most households in Sri Lanka own the dwellings in which they reside, especially the seventy percent in the rural non-estate sector. The estate families generally live in "lines" of company-owned barracks.

Information in this form is not present in either of the survey reports; presumably Lee interpolated to derive expenditure information for quintiles.

The value of self-consumed cereals (mostly rice) according to the 1969/70 Socio-Economic Survey ranged from about 4 percent of total income for the lowest income decile in rural non-estate areas to 6 percent for the middle seventy percent and 4 percent for the upper quintile (Richards and Gooneratne, 1980: 41).

The period from 1972 to 1975 was disastrous for Sri Lanka, and living standards fell rather seriously in the period after the survey was completed in early 1973 (Pyatt and Roe, 1977: 25-26).

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