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Inequality and Its Sources in Bangladesh, 1991/92 to 1995/96 : An Analysis Based on Household Expenditure Surveys

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Official estimates of personal income and its inequality, based on the Household Expenditure Surveys, suffer from inaccurate definition of income and inappropriate procedure for the estimation of inequality. This paper re-estimates personal income and expenditure and their components from the Household Expenditure Surveys of 1991/92 and 1995/96, estimates Gini ratios of income and expenditure distributions and corresponding concentration ratios of the distributions of their components. These results show that the *level* of inequality in Bangladesh is lower than the official estimates suggest while the *rate of increase* in inequality during the period under review has been greater than is shown by official estimates. The rising inequality has largely been due to the rising share in income of certain components that are disequalizing (i.e., disproportionately concentrated among the higher income groups) as well as a rise in the extent of their disequalizing effect. For Bangladesh as a whole a good part of increased inequality has been due to the sharp increase in inequality *between* urban and rural areas. The paper concludes by considering the implications of the findings for policies for poverty-reducing growth in Bangladesh.

I. INTRODUCTION

During the last quarter of the twentieth century the economy of Bangladesh achieved a reasonably steady but modest rate of growth of GDP of approximately 4.5 per cent per year. Skipping the three years of dislocation and decline immediately after independence, the annual growth rates of GDP during different

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sub-periods up to 1996/97 have been as follows:

1974/75 - 1979/80 4.2 per cent
1979/80 - 1989/90 4.3 per cent
1989/90 - 1996/97 4.7 per cent

During the last quarter of the twentieth century Bangladesh also experienced a significant demographic transition. The annual rate of population growth declined from about 2.7 per cent in the late 1970s to about 1.7 per cent in the late 1990s. Thus, although there was no more than a small acceleration in the rate of growth in GDP over this period, the annual rate of increase in *per capita GDP* doubled, from 1.5 per cent to about three per cent, between the late 1970s and the late 1990s.

This should have created a significant and increasing opportunity to reduce the incidence of absolute poverty in the country. Indeed it appears that, even though the rate of increase in per capita income was modest at the time, there was a substantial reduction in the incidence of absolute poverty in the period after the mid 1970s because the inequality in the distribution of income, as best one can measure it, did not increase.[1]

In the decade since the mid 1980s the poverty-reduction effect of growth became much weaker because of an increase in the inequality of income distribution. The growth in *per capita* income was much higher in this period than in the 1970s largely because of the decline in the rate of population growth. And yet the rate of reduction in the incidence of absolute poverty was much slower than in the decade before because the inequality in the distribution of income began to rise significantly. Some of the more reliable estimates show a significant rise in rural poverty and only a modest decline in urban poverty between 1985/86 and 1995/96.[2]

Clearly, the success in poverty reduction is conditioned as much by the distribution of income as by its growth. The experience of Bangladesh during the last quarter century is yet another example of cases of variations in the growth of income resulting in perverse variations in the incidence of poverty due to an adverse change in the distribution of income which is

[1] The Gini ratio of income distribution slightly declined between 1973/74 and 1983/84. The incidence of poverty declined substantially. The evidence is reported in Khan and Hossain 1989, chapter 7.

[2] These estimates are reported in Sen 1998.

often induced by the policies that are related to the variation in growth.[3]

Reduction of poverty is often cited to be the principal objective of economic policy in Bangladesh both by domestic policy makers and their international development partners. Economic growth is justly believed to be a *necessary* condition for the achievement of this objective. Recent experience in Bangladesh and elsewhere, however, strongly underline that the poverty-reduction potential of a given rate of growth is weakened, or even offset, when there is an increase in the inequality of the distribution of income. It is, therefore, important to ensure that growth is accompanied by the avoidance of a significant increase in inequality. In particular, it is essential that the policies for higher growth do not induce a magnitude of increased inequality that completely, or more than fully, offsets the effect of acceleration in growth on poverty reduction. An understanding of the nature and causes of the change in income distribution is a precondition for the avoidance of an inequality-inducing development path.

Income distribution and poverty are intensely-studied subjects in Bangladesh. Even so, existing estimates of inequality and poverty are often so highly controversial as to make an understanding of these phenomena difficult. For example, the World Bank estimates that there was a substantial reduction in the incidence of rural poverty between 1991/92 and 1995/96 (World Bank 1998) whereas careful estimates by others (e.g., Sen 1998) suggest that the reduction in rural poverty was insignificant over the same period. The Bangladesh Bureau of Statistics estimates that the Gini ratio of income distribution in Bangladesh for 1995/96 was one of the highest of the estimates available for Asian nations (BBS 1998). This view is in conflict with the widely-documented evidence, e.g., World Bank 1999, that inequality in Bangladesh is low by international standards.[4]

Curiously, all these estimates are based on the data provided by the Household Expenditure Surveys (HES) which have

[3] Other contemporary examples include China where an acceleration of growth since the mid 1980s led to a substantial decline in the rate of poverty reduction due to a rapid increase in inequality. See Khan and Riskin, 2001 for an argument that the increase in inequality was largely induced by the strategy of growth.

[4] The BBS measure is based on the Gini ratio of income distribution while the World Bank measure is based on the Gini ratio of expenditure distribution. The latter is usually lower than the former, but it is unlikely that the *ranking* of a country in terms of inequality according to one measure would be significantly different from its *ranking* in terms of inequality according to the other measure.

become an integral feature of the statistical system of Bangladesh. Such surveys are implemented every three or four years for a sample of rural and urban households. The principal purpose of these surveys is detailed estimation of household expenditure; but they also collect data for the estimation of household income and its main sources as well as a variety of other household characteristics.

The conflicting findings reported above may of course be due to the procedures adopted by individual studies. But it is also possible that this is partly due to an inappropriate interpretation of the survey data themselves. The latter possibility warrants a more careful look at the processing of the data from the HES than has been made to date.

The present study starts from the presumption that there is significant scope for improvement in the definition and measurement of income and expenditure and their distributions from the HES. *First*, the definition of income that the BBS employs in the estimation of inequality is unsatisfactory. As discussed in the next section, this can bias the measurement of the index of inequality. *Secondly*, the BBS estimates of the Gini ratios are based on the ranking of individuals according to income *per household* of the households of which they are members rather than income *per capita* of the households of which they are members.[5] Ranking according to income per household is an unsatisfactory method of estimating inequality. A member of a smaller household ranked lower than a member of a larger household according to income per household may easily be above the latter in terms of per capita well being.[6] A *third*, and by itself sufficient, reason for a more detailed classification of the HES data is that the existing estimates do

[5] This is demonstrated beyond doubt by the identity of the decile distribution of income for 1991/92 which is used to calculate the Gini ratio (page 32 of BBS 1998) with the decile distributions in tables on pages 221-3 of BBS 1995 which are labeled as tables based on the ranking of households according to income *per household*. Also Table 4.2 of BBS, 1998, which shows the estimates of Gini ratios for 1991/92 and 1995/96, shows deciles of *households*, not *population*.

[6] This is not to argue that ranking by per capita income does not have its limitations. One obvious limitation of per capita income is that it does not take into account the difference in the composition of household members. A household with a high proportion of children may be better off than a household of equal size and income but a high proportion of adults. This has led some to argue in favour of income per *adult unit*. The problem with this is that adult units differ for different types of consumption. The adult unit equivalent of a seven-year old is probably lower for food than for education. Usually it is hard to have the necessary information to devise overall adult units for aggregate income and consumption that are meaningful.

not permit the analysis of the sources of inequality without a knowledge of which it is impossible to design policies for egalitarian growth.

II. ESTIMATES OF INCOME AND EXPENDITURE

In this study inequality is estimated with reference to both income and expenditure. There are arguments in favour of each being a better indicator of inequality than the other. The principal argument in favour of (consumption) expenditure, as the basis for inequality estimates, is that consumption is a better indicator of "permanent" income than is observed current income in a given period which is subject to too many transitional influences. The principal argument in favour of a preference for income over consumption, as the basis for inequality estimates, is that consumption for many poor households is a poor indicator of permanent income in so far as it may be financed by the liquidation of assets which is unsustainable in the long run. Clearly there are merits in each argument. It is therefore desirable to estimate inequality for both while recognizing that each suffers from some kind of limitation.

Definition and Estimation of Income and Its Components

Table I shows personal or household income in rural and urban Bangladesh and its sources, as estimated from the HES, for the year 1991/92. Table II shows the same for the year 1995/96.[7] The principal sources of income for rural and urban areas, along with their changes over the period under review, are analyzed below.

Rural Income and Its Sources

The first component, income from farming, consists of what might be called "entrepreneurial income" from agriculture, livestock and fishery activities. It represents value added excluding wages paid for hired labour, but includes the return to family labour. Entrepreneurial income from farming is the largest single component of personal income in rural Bangladesh, accounting for 41 per cent in 1991/92 and 35 per cent in 1995/96. The decline in this componet, as a proportion of income, would be quite a normal feature of development but

[7] The terms "personal" income and "household" income are used interchangeably in this study.

for the fact that there was an *absolute* decline in the value of this source of income not only in real terms but also in *nominal* terms. This is a reflection agricultural stagnation in Bangladesh from 1990/91 to 1994/95; during this period value added in agriculture increased at less than one per cent per year, indicating a decline in per capita agricultural output. While the growth in agricultural output in 1995/96 was positive, much of it occurred in the *boro* season, almost certainly too late to be reflected in the rise in personal income in the same fiscal year. Considering further that during this period prices of agricultural inputs increased rapidly, it is quite plausible that per capita farm entrepreneurial income declined quite significantly.[8]

For 1995/96 farm income is further divided into *estimates* of three components: the *net* value of self-consumed farm output, the *net* value of marketed farm output and the *net* value of the residual farm output that can not be included in either of the above two categories. Net value of output in each category is estimated by allocating farm inputs, for which only the total value is shown without a division of it into the three components of farm output, in proportion to gross values of output. In rural Bangladesh self-consumed farm production and marketed farm output respectively account for 44 per cent and 42 per cent of income from farming in 1995/96. For 1991/92 the estimation of these components of farm income is not possible.[9]

Income from wages constitutes the second largest source of personal income in rural Bangladesh where its contribution increased substantially over the period under review. Casual agricultural wages are the largest source of wage income, followed respectively by regular and casual non-agricultural wages. Regular wage employment in agriculture is a relatively

[8] There is no dependable estimate of agriculture's terms of trade during this period. National accounts show that the implicit deflator for agriculture increased at a slightly lower rate than the implicit deflator for non-agricultural GDP.

[9] This is because certain parts of 1991/92 HES (mainly cards 5 and 6) were neither cleaned nor used by the BBS. The corresponding parts of the 1995/96 HES were cleaned. When we tried to use the household level data from cards 5 and 6 for 1991/92, we encountered enormous problems of consistency with the rest of the survey data. We therefore abandoned our attempt to use those cards for 1991/92. Without using the information in those cards it is not possible to divide farm income into its constituents. Thus the classification for 1991/92 is less detailed in this respect than the classification for 1995/96.

small source of wage income in rural areas although its importance has increased over the period under review. It is interesting to note that by the mid 1990s earnings from wage employment in non-farm activities had significantly exceeded the earnings from wage employment in agricultural activities in rural Bangladesh. This however does not take into account any imputation of "wages" accruing to labour engaged in family farming which is inseparable from entrepreneurial income. It is also important to note that the proportion of rural income derived from agricultural wage was almost unchanged between the years while the proportion of income derived from non-farm wages increased sharply.

Non-farm entrepreneurial income, representing all kinds of formal and informal non-farm activities, was the third most important source of income in rural Bangladesh in both the years. However, between the two years its share increased from 15 per cent to 19 per cent. This income is the difference between value added and the wages of hired labour. Imputed wages of family labour is included as part of entrepreneurial income.

Transfers, overwhelmingly accounted for by private charity and remittances made by relatives and friends, are the next most important source of personal income. These include both cash transfers and market values of transfers in kind.[10] Over the period under review the share of transfers in personal income declined slightly.

Rental value of dwellings *owned by households* is the next important source of income. This represents the imputed rental value of owner-occupied housing at market rent. Its share of personal income declined in rural areas from nearly 8 per cent in 1991/92 to less than 6 per cent in 1995/96.

Income from property, representing rent, interest and profit, rose substantially over the period though still accounting for only 1.4 per cent of total income. Miscellaneous income-consisting of the small components which are not sufficiently explained to make it possible to include them in any specific category-amounts to more than 2 per cent of rural income.

[10]Transfers received are components of income while transfers made to others are components of expenditure (see below). Thus these are gross transfers.

Urban Income and Its Sources

In urban Bangladesh wages were the largest source of personal income in 1991/92. Their share fell slightly by 1995/96 and they were relegated to the second largest source of personal income in that year. The dominant source of urban wage income is regular non-agricultural employment. Casual non-agricultural employment is the distant second source of wage income. About a tenth of urban wages are derived from employment in farming, representing agricultural activities located within areas designated as urban or within commuting distance.

Non-farm entrepreneurial income increased repidly in urban Bangladesh over the period to make its contribution the largest source of personal income by 1995/96. As in the case of rural areas, this source of income includes value added less the cost of hired labour. Return to family labour employed in these enterprises is included in what we call entrepreneurial income.

Each of the remaining sources of urban income is small compared to wages and non-farm entrepreneurship. Transfers are the largest of these other sources, falling from 9 per cent to 7 per cent over the period. There was a roughly comparable fall in the contribution of rental value of housing, the next most important source. Entrepreneurial income from farming accounts for approximately 6 per cent of income. This source seems to include both income from agricultural activities located within the geographical boundary of urban areas and income derived from absentee ownership of land and farm located in rural areas. Property income accounted for 3.8 per cent of income in 1991/92 and 3.4 per cent in 1995/96. Miscellaneous sources-those that are not defined sufficiently clearly either to be excluded from or to be included in any of the above categories-accounted for 6.7 per cent of income in 1991/92 and 3.3 per cent in 1995/96.

A Summary of Changes between 1991/92 and 1995/96

Approximately four-fifths of rural income is accounted for by three sources, farm income, wages and non-farm

entrepreneurial income. Between 1991/92 and 1995/96 there was a rise in the combined share of these three sources and a sharp change in their relative shares: the share of farm income fell substantially and the shares of wages and non-farm entrepreneurial income increased. The *absolute* change in the share of all other sources was small. Despite a sharp *proportionate* rise in the share of property income, its contribution to total income remained tiny. The *proportionate* fall in the share of the rental value of housing was also large.

In urban areas the dominant change in the composition of income consisted of a sharp rise in the share of non-farm entrepreneurial income. The shares of all other components fell. The proportionate decline was large in the case of transfers, rental value of housing and the residual "miscellaneous" category and small in all other cases.

TABLE I

PER CAPITA ANNUAL INCOME IN 1991/92 (CURRENT TAKA)

Source	Rural		Urban	
	Value	Per Cent	Value	Per Cent
Farming	2794.57	41.44	643.25	6.09
Wage	1444.59	21.42	3862.29	36.55
Regular Agric.	131.13	1.94	102.57	0.97
Casual Agric.	601.28	8.92	240.71	2.28
Regular Non-Agric.	354.39	5.25	2155.74	20.40
Casual Non-Agric.	285.43	4.23	1058.00	10.01
Other Wage/Pension	72.34	1.07	305.26	2.89
Non-Farm Enterprise	1034.04	15.33	3003.30	28.42
Property	59.79	0.89	396.95	3.76
Transfer	735.00	10.90	979.01	9.27
Rental Value of Housing	522.10	7.74	970.73	9.19
Miscellaneous	154.23	2.29	710.33	6.72
Total Income	6744.32	100.00	10565.86	100.00

TABLE II

PER CAPITA ANNUAL INCOME IN 1995/96 (CURRENT TAKA)

Source	Rural		Urban	
	Value	Per Cent	Value	Per Cent
Farming	2656.59	35.03	860.57	5.80
Self Consumption	1180.46	15.57	323.38	2.18
Marketed Output	1112.26	14.67	421.09	2.84
Residual	363.86	4.80	116.33	0.78
Wage	2045.82	26.98	5320.64	35.84
Regular Agric.	224.36	2.96	280.22	1.89
Casual Agric.	614.03	8.10	289.40	1.95
Regular Non-Agric.	543.31	7.17	3043.06	20.50
Casual Non-Agric.	488.46	6.44	1204.16	8.11
Other Wage/Pension	175.67	2.32	503.81	3.39
Non-Farm Enterprise	1448.32	19.10	5597.56	37.70
Property	103.73	1.37	507.62	3.42
Transfer	724.71	9.56	1068.52	7.20
Rental Value of Housing	425.37	5.61	1006.64	6.78
Miscellaneous	178.08	2.35	484.47	3.26
Total Income	7582.63	100.00	14846.01	100.00

There was a decline in per capita rural income and a fairly rapid increase in per capita urban income. Real per capita rural income fell by an annual rate of 2.41 per cent if the change in the official rural consumer price index (CPI) between the years (showing a total increase of 23.97 per cent over the period) is used to deflate income and real per capita urban income increased by an annual rate of 3.73 per cent if the change in the official urban CPI (showing an increase of 21.35 per cent) is used. Are these figures plausible and consistent with the available information about the economy?

TABLE III

A COMPARISON BETWEEN OUR ESTIMATES AND THE BBS ESTIMATES OF INCOME AND ITS GROWTH

(Taka Per Capita Per Month)

	1991/92 Current Price	1995/96 Current Price	1995/96 Constant 1991/92 Price	Annual Real Growth Rate(%)
Our Estimates				
Rural	562.03	631.88	509.70	-2.41
Urban	880.49	1237.17	1019.51	3.73
Urban/Rural Ratio	1.57	1.96	2.00	
BBS Estimates				
Rural	581.17	696.79	562.06	-0.83
Urban	904.75	1504.28	1239.62	8.19
Urban/Rural Ratio	1.56	2.16	2.21	
Memo Item: CPI				
Rural	100.00	123.97		
Urban	100.00	121.35		

Note: Our estimates are described in the text. The BBS estimates are the figures reported in the HES (see BBS 1995 and BBS 1998). The CPIs refer to the per cent change in the CPIs between 1991/92 and 1995/96. The actual base of the CPIs is 1985/86. The CPIs are reported in Government of Bangladesh 1999. The annual real rate of growth is the annual compound change between 1991/92 value and the 1995/96 value at 1991/92 price (i.e., deflated by the CPI).

TABLE IV

A COMPARISON OF INCOME ESTIMATES FOR 1995/96

(Taka Per Capita Per Month)

RURAL			
BBS		This Study	
Agricultural Income	246.66	Farm Income	221.38
Business & Commerce	102.43	Non-Farm Enterprise	120.69
Wages & Salary	193.01	Wages	170.49
Housing Service	45.29	Rental Value of Housing	35.45
Gift & Remittance	66.89	Transfer	60.39
Other Income	42.51	Other Income	23.48
Total	696.79	Total	631.88
Included in BBS but Excluded in this Study :		Capital Receipt	63.19
URBAN			
BBS		This Study	
Agricultural Income	72.21	Farm Income	71.71
Business & Commerce	502.43	Non-Farm Enterprise	466.46
Wages & Salary	550.57	Wages	443.39
Housing Services	111.32	Rental Value of Housing	83.89
Gift & Remittance	118.84	Transfer	89.04
Other Income	148.91	Other Income	82.67
Total	1504.28	Total	1237.17
Included in BBS but Excluded in this Study :		Capital Receipt	122.88

Note : BBS estimates are from BBS, 1998.

Comparison with the BBS Estimates of Income

Table III shows rural and urban incomes for 1991/92 and 1995/96 both according to our estimates and according to the BBS estimates that are actually reported in the HES. For 1995/96 values at both current price and at 1991/92 constant price are shown. The CPIs that are used to obtain the latter are based on the rates of change in the official rural and urban CPI over the period under review.

Our estimates are lower than the BBS estimates. This is because the BBS includes in its definition of income several kinds of capital receipts which our definition excludes. These are: revenue from sale of assets and livestock (other than the growth of livestock which is already included in the value of farm output)[11]; withdrawal from working capital, saving deposits and provident funds; receipt of loan repayment from those in debt to the household concerned; and borrowing.[12] These clearly do not belong to income according to any acceptable definition.

The difference between our estimate and the BBS estimate is small enough in most cases to be explained by the above. There is however a rather large difference between our estimate and the BBS estimate of urban income for 1995/96 which may not be explained by the above alone. To explain this issue more completely, it is useful to compare the income estimates of this study with those of the BBS both for total income and for the individual categories of income, that are broadly comparable in

[11] The increase in the production of livestock-sold, self-consumed and held as stock addition-have been included in entrepreneurial income from farming (card No. 5 of the HES questionnaire and "real agricultural income" in section *Khaw* of card No. 7). Thus "capital receipts" from the sale of livestock (section *ghaw* of card No. 7 of the HES questionnaire) represent the depletion of assets.

[12] For the 1995/96 HES, the final three cards (cards Nos. 5-7) of the questionnaire are devoted to the estimation of income. Card 5 enumerates total income from agricultural production, including the imputed value of the output consumed by the households themselves. Card 6 shows all costs of agricultural production. Card 7 enumerates net income from all sources, including sources other than agricultural production. This card also includes capital receipts (proceeds from sale of assets, cattle, poultry and other animals; withdrawal of working capital, saving deposits and provident fund; return of loans made in the past; and "borrowing") which, according to BBS sources, have been included in income. For 1991/92 we are limited to card 7.

the two sets of estimates, for 1995/96 (Table IV). The discrepancy is significant for total income and for most individual categories. With the exception of non-farm enterprise ("business and commerce" according to the BBS classification) in rural areas and farm income in urban areas, all the categories in this study are lower than the comparable categories in the BBS estimates.

We have been able to estimate separately most of the items of capital receipts while information about the receipt of loans repaid has been excluded from the data set available to us. Once the *available* components of capital receipts are added, our estimate of rural income exactly matches the BBS estimate. For urban areas the inclusion of the available capital receipts brings our estimate to 90.4 per cent of the BBS estimate. Having failed in our strenuous effort to bridge the difference, we surmised that much of it is accounted for by the missing elements of capital receipts, e.g., the repayment of past loans, unless, of course, one or both the estimates have made some other kind of error.

Indeed we think that the BBS estimate of urban personal income for 1995/96 is implausibly high. It indicates a real annual rate of growth in *per capita* urban personal income of 8.19 per cent. This means that the annual increase in total real urban output was around 11 per cent. In other words, total urban output of Bangladesh increased by more than 50 per cent over the short period of four years! There is little in the macroeconomic statistics and GDP accounts to suggest that urban Bangladesh attained such a high rate of growth over the period under review.[13]

Even if our estimates understate the increase in income over the period, this by itself will not necessarily affect the estimates of inequality unless the excluded components have a very different distribution. Indeed the non-income items that the BBS includes in its definition are more unequally distributed than the rest of income. Their exclusion probably has a downward effect on the estimates of inequality.

[13] Using the BBS data, the weighted average annual increase in per capita personal income for rural and urban Bangladesh together during the period was 3.7 per cent, implausibly high in view of the growth in per capita GDP of about 2.8 per cent year. Typically, personal income grows at a slower rate than GDP.

While it might be reasonable to conclude that the discrepancies at the level of overall average incomes are due to the inappropriate income definition of the BBS, how might one explain the significant differences in individual components? For example, rural agricultural income is only 90 per cent of the same estimated by the BBS. We surmise that this is due to the method of classification of the three non-income components in the BBS estimates into different income categories. For example, a substantial part of capital receipts for rural areas is from the sale of livestock and has thus been added to agricultural income. Similarly, accumulation of assets in business and commerce may have been added to income from business and commerce.

Urban-Rural Inequality

There was an extraordinary rise in urban-rural inequality over the period under review. Per capita urban income was 57 per cent higher than per capita rural income in 1991/92. By 1995/96 the difference had increased to 96 per cent at current price! At constant 1991/92 cost of living the difference was even higher-100 per cent-because of a faster rate of increase in rural cost of living than in urban cost of living. This level of urban-rural inequality is qualitatively higher than at any time in recorded history over more than three decades. This difference in the past never exceeded 60 per cent except in the unusual year 1981/82 when it temporarily shot up to 85 per cent.[14]

Note that urban-rural inequality *increased* even faster according to the BBS estimates. An increase in this inequality from 56 per cent to 116 per cent-indicating a more than doubling of the proportionate difference between urban and rural per capita income as claimed by the BBS-seems implausible and is yet another reason to suspect that the BBS estimate of urban income for 1995/96 is exaggerated.

[14] The highest recorded inequality, based on the household survey data since 1963/64, was 85 per cent in 1981/82 which was an outlier and was probably due to a sharp upward adjustment in public sector wages and salaries, most of whose recipients were urban residents, in that year. If 1981/82 is excluded, the difference ranged between 33 per cent in 1978/79 and 59 per cent in 1968/69. All these inequalities are at current prices. See Khan and Hossain, 1989, p. 150.

Composition of Consumption Expenditure

Table V shows per capita consumption expenditure and its composition for rural and urban areas. These expenditure estimates are far closer to the BBS estimates than our income estimates are to theirs. For rural Bangladesh our estimate of per capita expenditure is almost exactly the same as the BBS estimate of consumption expenditure. For urban Bangladesh our estimate is about 2 per cent higher than the BBS estimate for 1991/92 but lower than the BBS estimates by about 7.6 per cent for 1995/96. There clearly is something problematic about the 1995/96 urban data which strenuous efforts on our part have failed to resolve.

As in all poor countries, food claims a disproportionately high share of total expenditure. This share is higher for rural Bangladesh than for urban Bangladesh and has declined significantly over the period under review. In rural Bangladesh it came down from 70 per cent in 1991/92 to 63 per cent in 1995/96. In urban Bangladesh the decline was from 58 per cent to 51 per cent. Rice alone accounted for a third of rural consumption in 1991/92, whence it declined to 27 per cent in 1995/96. In urban Bangladesh it accounted for roughly a half of the share of expenditure as in rural areas.

The next important category of expenditure is housing, including both the rental value of owner-occupied dwelling and expenditure on rented housing. This accounted for about 9 per cent of expenditure in rural Bangladeh and 16 per cent in urban Bangladesh in both the years. Expenditure on housing is higher than the rental value of owned dwelling and this difference widens greatly between 1991/92 and 1995/96. Rural housing expenditure was 4 per cent higher than the rental value of housing in the earlier year and 56 per cent higher in the later year. In urban areas this difference rose from 64 per cent in 1991/92 to 139 per cent in 1995/96. The difference between the two would normally be due to renting and a rise in the ratio of expenditure to rental value of owned housing would indicate a rise in the proportion of housing that is rented rather than owned. It, however, seems unlikely that the incidence of rental could rise so dramatically over such a short period, especially in rural areas. It is more likely that between the two years the accounting system changed to include in expenditure more items of housing expenditure other than the (actual and imputed) rent, e.g., cost of water, repair and maintenance and other related expenditure.

Clothing and footwear and fuel and lighting are the next two expenditure categories in terms of quantitative importance. Fuel and lighting account for about 6 per cent of expenditure in rural areas. In urban areas their share declined from 6 per cent to 5 per cent over the period. Clothing claimed 6 per cent of household expenditure in both urban and rural areas in 1995/96, a significant rise over the shares in 1991/92.

TABLE V

PER CAPITA EXPENDITURES AND THEIR COMPONENTS

Components of Expenditure	1991/92		1995/96	
	Rural	Urban	Rural	Urban
Per Capita Expenditure (Taka Per Year)	6,056.50	9,809.98	7,831.82	14,811.02
Composition (Per Cent of Total)				
Food	70.1	58.4	62.7	50.8
(Rice)	(33.0)	(18.8)	(26.7)	(13.5)
Fuel and Light	5.5	6.1	5.9	4.9
Housing	8.9	16.3	8.5	16.2
Clothing & Footwear	4.6	4.0	6.0	6.0
Cosmetics and Cleaning	2.5	2.7	2.8	2.7
Education	1.3	2.5	2.6	5.1
(For Men)	(0.9)	(1.5)	(1.7)	(2.8)
(For Women)	(0.5)	(1.1)	(0.9)	(2.3)
Medical Expenditure	1.9	2.1	2.7	2.2
(For Men)	(1.0)	(1.1)	(1.4)	(1.1)
(For Women)	(0.8)	(1.0)	(1.3)	(1.1)
Furniture	1.6	1.9	3.2	3.7
Entertainment	0.1	0.2	0.1	0.3
Tax	0.1	0.3	0.1	0.4
Transport	0.5	1.1	0.9	1.7
Transfer	1.0	1.8	1.2	2.1
Miscellaneous	2.1	2.6	3.2	3.9

Note: Due to rounding error subgroups do not always exactly add up to the total for groups.

Education, the principal expenditure category directed to the acquisition of human capital, claims twice as high a proportion of household expenditure in urban areas as in rural areas. It doubled its share of total expenditure over the period although still claiming only 2.6 per cent of household expenditure in rural areas and 5 per cent in urban areas in 1995/96. Intra-household allocation of expenditure on education is heavily skewed in favour of male members. The gender inequality in the intra-household distribution of expenditure on education is much greater for rural Bangladesh than for urban Bangladesh. This inequality remained undiminished in rural areas over the period under review while it declined in urban areas.

The share of health rose from less than 2 per cent to close to 3 per cent of expenditure in rural areas. In urban areas the share of health in household expenditure was just over 2 per cent in both years. Health expenditure is slightly skewed in favour of men in rural areas and even less in urban areas. Available information does not allow us to judge if this reflects a better gender balance on the part of the household decision makers in the allocation of expenditure for health care than in the allocation of expenditure for educational investment or if this simply reflects a worse state of health for women requiring a relatively better gender balance in the allocation of expenditure for curative health care.

Including cleaning and cosmetic expenditure - which accounts for close to 3 per cent of total expenditure and is probably largely accounted for by personal hygiene and household cleaning - the seven most important groups of expenditure together account for 91 per cent of rural expenditure and 88 per cent of urban expenditure in 1995/96. In 1991/92 they accounted for 4 percentage points more. The remaining components each claim a very small proportion of total expenditure although the expenditure on each of them has been creeping upwards. The category among them that requires a further comment is expenditure on transfer. Average *expenditure* on transfer is far lower than average *income* from transfer which indicates that much of the transfer, as a source of personal income, is derived from abroad.

The Consistency between Income and Consumption Estimates

What about the consistency of the income estimates with the expenditure estimates? If the expenditure estimates in Table V are taken to be consumption expenditure, then for the year 1991/92 the rural households had saved an average of 10.2 per cent of their income and the urban households saved 7.2 per cent of their income. The comparable estimates for 1995/96 are drastically lower : the rural saving rate is -3.3 per cent while the urban saving rate is a negligible 0.24 per cent. Even if one could explain the low or negative saving rates for 1995/96,[15] it would be hard to explain the drastic fall in the saving rate between 1991/92 and 1995/96 without attributing it to a change in the accounting practice between the two years.

The problem is not due to our re-estimation of income and expenditure. If one uses the BBS estimates of "income", after excluding the non-income components (viz. capital receipts, see Table IV above), rural saving rate turns out to be -3 per cent and the urban saving rate falls drastically to about 3 per cent for the year 1995/96.

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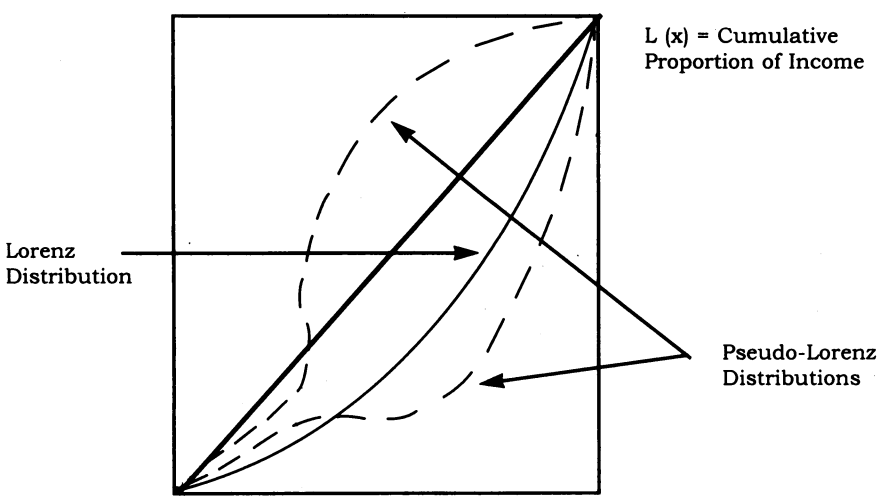
[15] For instance, one could think of a number of reasons why the rural saving rate estimates from the 1995/96 HES would be low. First, it is likely that the real rural saving rate in 1995/96 was indeed very low. For several preceding years the rural economy was stagnant. The rate of agricultural growth in the two preceding years was negative and, in 1995/96 itself, *per capita crop production* was significantly below what it was in 1991/92. Secondly, expenditure enumerated in the HES includes many items-e.g., purchase of commercial transport equipments such as boats, bullock carts and horse-drawn carriages- which should be considered as investment. The BBS does recognize the distinction between expenditure and consumption. But the difference between the two in rural areas is estimated by the BBS to be just over one per cent which seems to be a rather inadequate allowance. Thirdly, in this kind of surveys under- enumeration is more common for income than for expenditure. An example helps illustrate the point. Expenditure on rural housing is estimated to be about 56 per cent higher than income from the rental value of dwellings owned in rural areas. Much of this difference is due to: expenditure on water supply; the cost of repair; and "other expenses" related to housing. It is highly likely that many of these "expenditures" in rural areas are outputs produced by households themselves (e.g., repair made by using household labour). In the questionnaire on expenditure, each of these items, in addition to the rental value of owned dwelling, is enumerated in detail. In the questionnaire on income, information is asked only about the rental value of owned dwelling. The point, however, is that all these factors can explain why the saving rate is low in 1995/96; *they are not helpful in explaining the sharp decline in the saving rate between the two years.* The only explanation for this is a change in the system of enumeration underlying the survey between the years.

III. THE INDEX OF INEQUALITY

Households are ranked in ascending order of per capita income. They are then divided into ten decile groups of *population*, not households, and the shares of each decile in total income and income from each of the different sources. Plotting cumulative shares of total income for the cumulative deciles, one gets the Lorenz distribution of income. Similarly, for the i-th component of income, one can derive a "pseudo-Lorenz distribution" in which cumulative shares of i-th source of income are plotted against the cumulative deciles of population in which the latter is obtained from a ranking of individuals according to *per capita overall income* rather than per capita income from the i-th source. As the Gini ratio is estimated from the Lorenz distribution of income, so is the "pseudo-Gini ratio" or the "concentration ratio" for the i-th source of income estimated from the pseudo-Lorenz distribution of the i-th income component.

Diagram 1
Lorenz Distribution and Pseudo-Lorenz Distributions



The Lorenz distribution in our case consists of ten discontinuous segments of linear approximations of the true Lorenz distribution which is continuous. It is a function L(x) which is the proportion of total income received by the lowest x proportion of income recipients. Its properties include : (a) L (x) = 0 for x = 0; (b) L(x) = 1 for x = 1; (c) L(x) ≤ x;. (d) L'(x) > 0; and (e) L''(x) ≥ 0. These properties ensure that the Gini ratio, which is twice the area between the diagonal of a unit square and the Lorenz curve, has a value between zero and one. The pseudo-Lorenz distribution satisfies properties (a) and (b) but not (c), (d) and (e). The pseudo-Gini (or the concentration) ratio, which again is twice the area between the diagonal of a unit square and the pseudo-Lorenz distribution, is therefore not bound by the limits of 0 and 1 that bind the Gini ratio. In Diagram 1, the solid line shows the Lorenz distribution while the broken lines are examples of pseudo-Lorenz distributions.

The Gini ratio is the weighted average of the concentration ratios of the components of income where the weights are the shares of the respective components in total income:[16]

$$G = \sum_{i=1}^{n} q_i C_i$$

where,

G = Gini ratio of total income;

q_i = the ratio of the i-th source of income to total income; and

C_i = the pseudo-gini or concentration ratio (hereafter the concentration ratio) for the i-th source of income.

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[16] For the application of this method of decomposing the Gini ratio, see Fei, Ranis and Kuo 1978; Fields 1980 and Kakwani 1980 and 1986. Fei *et al.* call the index of distribution of the individual components the "factor Gini ratios" (or simply Gini ratios); Fields uses the name "pseudo-Gini coefficients" and Kakwani calls them "concentration indices". Fields 1980 is a useful source for further explanation of the method and for references to other applications of this kind of decomposition of the Gini ratio.

A component of income having a concentration ratio that is greater (smaller) than the Gini ratio is "disequalizing"; a rise in its share of total income increases (reduces) the Gini ratio, other things remaining the same. The contribution of the i-th source of income to inequality- i.e., the per cent share of the Gini ratio that is accounted for by the distribution of the i-th source of income- is given by $z_i = 100\ (q_i C_i)/G$. A component of income which has a higher (lower) z_i than its per cent share of total income has a disequalizing (equalizing) effect on overall income distribution; a rise in its share of total income increases (reduces) the Gini ratio.

IV. THE DISTRIBUTION OF RURAL INCOME

Table VI shows the Gini ratio of rural income distribution and the concentration ratios of the distribution of different components of rural income for both 1991/92 and 1995/96. The Gini ratios of rural income distribution are respectively 0.276 and 0.310, significantly lower than the BBS estimates of 0.364 and 0.384 for 1991/92 and 1995/96. This is because of the difference between this study and the BBS in the definition of income and the method of ranking. As noted above, the BBS definition includes non-income revenues which have a highly skewed distribution. Furthermore, the BBS ranking is based on income *per household* which is not a proper basis for a comparison of living standard.

While the *levels* of inequality are lower according to our estimates, the *change* in the direction of the Gini ratio is the same according to our estimates as that according to the BBS estimates and the *proportionate magnitude of change* is higher for our estimates. Thus, compared to the BBS estimates, our estimates show that the level of rural inequality is lower although the rate of its increase during the period under review is higher.[17]

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[17] We estimate the Gini ratio from grouped data. This implies the assumption that the Lorenz distribution between any two consecutive decile points is a straight line. In reality, the distribution would be curved if we used continuous information about the distribution. Thus, in effect, our procedure amounts to an artificial reduction of the area between the diagonal and the Lorenz distribution and a slight underestimation of the Gini ratio. Experiments show that this underestimation is very small and would usually make a difference in the estimate in the second or third place after decimal. Thus, for example, the Gini ratio estimated from a fitted Beta Lorenz distribution to the rural income distribution data for 1995/96 is 0.318 as compared to our estimate of 0.310. We do not know how the BBS estimates of Gini ratio were made; but the difference between their eatimates and our estimates can not be explained by the difference in computational procedure.

As noted in the previous section, the Gini ratio is the weighted average of the concentration ratios of the individual components of income, the weights being the shares of the respective components in total income. Any component with a lower concentration ratio than the Gini ratio has an equalizing effect on income distribution in the sense that a rise in its share of total income would reduce the overall inequality (the Gini ratio) of income distribution. Another way to determine if a source of income is equalizing (disequalizing) is to see if its contribution to the Gini ratio (the last column of the Table) is smaller (larger) than its share of total income (the first column of the Table).

Entrepreneurial income from farming has a disequalizing effect on the distribution of rural income. This effect is moderate for 1991/92 and even milder for 1995/96. Between 1991/92 and 1995/96 the absolute level of the concentration ratio for farm income rose a little, but its ratio to the Gini index fell. Furthermore, farm income, as a proportion of total income, fell substantially over the period. As a consequence of the sum of these two effects, farm income contributes a much smaller proportion of total inequality in 1995/96 than in 1991/92, 38 per cent as compared to a half.

Different components of farm income, however, have different effects on income distribution. This is something that can be estimated only for 1995/96. For 1991/92 the classification of farm income into its components is not available for reasons discussed earlier. The evidence for 1995/96 shows that the self-consumed part of farm income has an equalizing effect while the farm income derived from marketed output has a strongly disequalizing effect. The implication is that a rise in the share of farm income from subsistence farming is equalizing while a rise in the share of income from commercial farming is strongly disequalizing. An increase in resources for agriculture, leading to a rise in its share of rural output and income, with unchanged structure of institutions, increases inequality of the distribution of income rather mildly. If however these resources are directed to small farmers whose output is perdominantly self-consumed, the distribution of income improves.

To get a better glimpse of the forces at work, we might juxtapose the distribution of rural income against the distribution of land (Table VII). The "concentration" ratio of owned land is 0.360 for 1991/92 and 0.368 for 1995/96, indicating a significantly less equal distribution of access to

TABLE VI

RURAL INCOME INEQUALITY AND ITS SOURCES

Sources of Income	Share of Total Income (%) $100q_i$		Gini/Concentration Ratio C_i or G		Contribution of Income Component to Overall Inequality (%) $(100q_iC_i)/G$	
	1991/92	1995/96	1991/92	1995/96	1991/92	1995/96
Farm Income	41.48	35.03	0.332	0.338	49.9	38.2
Self Consumption	—	15.57	—	0.272	—	13.7
Marketed Output	—	14.67	—	0.418	—	19.8
Residual Farm Income	—	4.80	—	0.308	—	4.8
Wage	21.42	26.98	0.102	0.143	7.9	12.4
Regular Agric. Wage	1.94	2.96	0.101	0.128	0.7	1.2
Casual Agric. Wage	8.92	8.10	-0.159	-0.153	-5.1	-4.0
Regular Non-Ag. Wage	5.25	7.17	0.472	0.492	9.0	11.4
Casual Non-Ag. Wage	4.23	6.44	0.138	0.126	2.1	2.6
Other Wage/Pension	1.07	2.32	0.323	0.157	1.3	1.2
Non-Farm Enterprise	15.33	19.10	0.224	0.329	12.4	20.3
Property Income	0.89	1.37	0.552	0.572	1.8	2.5
Transfer	10.90	9.56	0.364	0.599	14.4	18.5
Rental Value of Housing	7.74	5.61	0.351	0.276	9.8	5.0
Miscellaneous Income	2.29	2.35	0.426	0.403	3.5	3.1
Total Income	100.00	100.00	0.276	0.310	100.00	100.00

Note : q_i = the share of the i-th component of total income; C_i = the concentration ratio of the i-th source of income; and G = the Gini ratio of income distribution. Column totals, values shown in the Total Income row, do not always add exactly up to the amounts shown due to rounding error.

owned land than the distribution of rural income in both years.[18] The distribution of access to operational landholding is however less unequal (much more equal). The "concentration ratio" of operational landholding is 0.320 for 1991/92, more unequal than the distribution of rural income; but only 0.270 for 1995/96, more equal than the distribution of rural income.

The reader should be warned about the distinction between the "concentration ratio", which is reported above, and the Gini ratio of owned land, which, based on the ranking of individuals according to per capita *ownership* of land, is substantially higher, 0.649 for both 1991/92 and 1995/96. The Gini ratio of

[18] The "concentration ratio" for land is estimated from the "Pseudo-Lorenz" distribution of land which shows the proportion of owned and operated land for each decile group of individuals ranked in order of per capita income.

the distribution of landownership remained exactly the same over the period under review. The concentration ratio of operated land, based on the distribution of operated land among decile groups of individuals ranked according to *per capita ownership of land,* is much lower and it declined from 0.529 in 1991/92 to 0.466 in 1995/96. To illustrate, in 1995/96 the top 10 per cent of *landowners* owned 47 per cent of land but operated only 34 per cent; the bottom 40 per cent of *landowners* owned less than 3 per cent land but operated nearly 12 per cent. In the same year the top 10 per cent of rural income earners owned 30 per cent of land and operated less than 22 per cent. The poorest 40 per cent of income earners owned 18 per cent of land and operated nearly 23 per cent.

To sum up: the distribution of access to land is far less unequal (more equal) for *income* groups than for *landownership* groups; and for each group the access is less inequitable (more equitable) for operational landholding than for ownership of land. Both the high-income and high-landowning groups rent out land to low-income and low-landowning groups. The access of different *income* groups to operational landholding became markedly more equal in 1995/96 as compared to 1991/92. This may have been a factor in making the distribution of farm income less disequalizing in 1995/96 than in 1991/92.

TABLE VII

ACCESS TO LAND IN RURAL BANGLADESH

Inequality Measures	1991/92	1995/96
Gini Ratio of Landownership	0.649	0.649
Concentration Ratio of Operational Landholding (Individuals Ranked by Per Capita Landownership)	0.529	0.466
Concentration Ratio of Landownership (Individuals Ranked by Per Capita Income)	0.360	0.368
Concentration Ratio of Operational Landholding (Individuals Ranked by Per Capita Income)	0.320	0.270

Entrepreneurial income from non-farm enterprises was an equalizing component in 1991/92 but a disequalizing component in 1995/96. This is the only component of income that changed from having an equalizing influence on the distribution of income to a disequalizing influence, albeit only mildly so. This transformation has coincided with this component becoming quantitatively a much more important source of income over the period. As a result the disequalizing effect of this component on overall inequality was magnified. This source of income includes all manufacturing, trading, construction and service activities. Great hope is often placed on these activities as a source of rapid and egalitarian growth. A good deal of rural development and microcredit programmes in Bangladesh aim at the promotion of these activities. While many of these programmes themselves may have had an equalizing effect on the distribution of income, the overall effect of the development of these activities is to make the distribution of income more unequal, if only mildly so.

Wages of all kinds, the second largest source of personal income in rural Bangladesh, exert a strongly equalizing overall effect. Different types of wages, however, have very different effects on the distribution of income. Wages from agricultural employment have a very strong equalizing effect on the distribution of income. The weighted average concentration ratio for wages from regular and casual agricultural employment was -0.112 in 1991/92 and -0.078 in 1995/96. Together these sources accounted for about 11 per cent of income but their contribution to overall inequality was *negative in both the years:* -4.4 per cent in 1991/92 and -2.8 per cent in 1995/96. Of the two types of agricultural employment, casual employment is far more important a source of income. It is the only component of rural income with a *negative* concentration ratio, indicating that a disproportionately high share of income from this source accrues to lower income groups. Wages from regular employment in agriculture is also very strongly equalizing, though less so than wages from casual employment.

Wages from *regular* non-farm employment, like entrepreneurial income from non-farm activities, have a strongly disequalizing effect on the distribution of income. Wages from *casual* non-farm employment is however strongly equalizing. Together wages from regular and casual non-farm employment, with a

weighted concentration ratio of about 0.320 in both they years, had a moderately disequalizing effect in 1991/92 and almost a neutral effect in 1995/96 on the distribution of overall rural income. This is the sum of a highly disequalizing effect of *regular* employment and a strongly equalizing effect of *casual* employment. Regular employment is quantitatively more important of the two sources of wage income from non-farm employment.

Why are wages from regular employment more disequalizing (less equalizing) than wages from casual employment? We do not have direct information about the characteristics of the two types of employment and the types of labour force that they encompass. One might surmise that the line of demarcation is either the kind of enterprise - regular employment predominates in more formal kind of enterprises while casual employment predominates in more informal kind of enterprises-or the endowment of human capital-regular employment accrues to the more skilled members of the labour force while the unskilled are relegated to casual employment. High-income households are more likely to have a higher skill endowment and a greater access to employment in formal sector enterprises than low-income households.

Transfer, accounting for about 10 per cent of income, is the next most important source of personal income. It had a disequalizing effect on the distribution of income in both periods; but its disequalizing effect is far greater in 1995/96 than in 1991/92. By 1995/96 it came to have the highest concentration ratio of all components of income. These are mostly, perhaps almost exclusively, private transfers. In the absence of more detailed information about the nature of these remittances, one can only surmise that households with members who have migrated to urban areas or overseas are concentrated among the high-income groups. Should this be correct, one must modify ones hope that migrants' remittances are an important source of rural development by recognizing that they are also massively disequalizing.

Rental value of owned housing, the next important source of income, was a disequalizing component in 1991/92 but became an equalizing component in 1995/96. But this transformation was accompanied by a decline in the share of this source in

total income. Property income is the most disequalizing of all components of income for 1991/92 and the second most disequalizing component in 1995/96. It, however, accounts for a small proportion of total inequality because of its small share of income. Miscellaneous sources of income, about the composition of which our knowledge is limited, are quantitatively small and rather strongly disequalizing.

The increase in rural inequality was driven by the rising income shares of the components which were becoming rapidly disequalizing. Thus changes in income share and distribution of just two components - regular non-farm wages and income from non-farm enterprise - more than fully explain the rise in the Gini ratio. The sum of changes in all other components made a negative contribution to the rise in the Gini ratio.[19]

Eighty four per cent of the increment in the Gini ratio between the two years was due to changes concerning income from non-farm enterprises which was transformed from an equalizing component of income to a disequalizing component. At the same time the share of this component in total income went up substantially.

The other major sources of increased inequality were changes concerning wages and transfer. While remaining an equalizing source of income, wages were less strongly equalizing in 1995/96 than in 1991/92, a period over which their share in total income also increased. Together these changes accounted for 49 per cent of the increase in the Gini ratio. Transfers became a smaller source of income in 1995/96 than in 1991/92; but at the same time they became far more disequalizing in 1995/96. These effects amounted to 50 per cent of the increase in the Gini ratio.

There were important offsetting factors of which the largest two deserve mention. The most important offsetting effect came from changes concerning farm income. While the concentration ratio for farm income increased slightly, its share of total

[19] This does not mean that every other component made a negative contribution. Transfer and property income made positive contributions which were outweighed by negative contributions made by the other components.

income fell substantially. The fall in the share of this disequalizing source of income accounted for (*negative*) 57 per cent of the increase in the Gini ratio. A second *negative* contribution to the Gini ratio - amounting to 34 per cent of its change - was due to rental value of housing which was transformed from a disequalizing source to an equalizing source. It is noteworthy that a decline in farm income, as a proportion of total income, has been associated with a rise in its concentration ratio. This might have been due to a change in the composition of farm income, e.g., a rise in the proportion of farm income derived from marketed output. This can not be ascertained due to the absence of details for 1991/92.

Is it possible that rising inequality in rural Bangladesh was linked to its stagnation and retardation during the period under review, that a resumption of high growth would arrest or reverse the process? This would depend, first, on the composition of incremental income and the incremental distribution of these components. If the rural economy grows rapidly, agriculture will have to overcome the stagnation that it faced during the period under review and, almost certainly, the proportion of income derived from non-farm entrepreneurship will rise. If the commercialization of agriculture continues, leading to an increase in the marketed proportion of output, growth in farm income is likely to be disequalizing in the absence of a substantial increase in the equality of access to land. Similarly, a rise in the proportion of income from non-farm entrepreneurship would most likely lead to an increase in its contribution to inequality unless the equality of access to human capital, credit and other resources increases substantially.

V. THE DISTRIBUTION OF URBAN INCOME

Table VIII shows the Gini ratios of urban income distribution and the concentration ratios of the components of urban income. As in the case of rural Bangladesh, our estimates of the Gini ratio for urban Bangladesh (0.327 for 1991/92 and 0.389 for 1995/96) are lower than the BBS estimates (0.398 and 0.444). As noted in the preceding section, this is due to the difference between the income definitions underlying the two

sets of estimates and the different criteria of ranking of members of households for the estimation of Lorenz distributions by the two. Our estimates indicate the same direction of change between the two years as do the BBS estimates although our estimates indicate a *proportionately* larger increase in inequality than do the BBS estimates.

Entrepreneurial income from non-farm activities, encompassing all formal and informal enterprises owned/operated by households, was the second largest source of income in 1991/92. By 1995/96 it replaced wages as the largest source of income. Between the two years, the distribution of this source of income changed from moderately equalizing to substantially disequalizing. The sum of these two effects was a very large increase in the contribution of this source to inequality. By 1995/96 it explained 45 per cent of the Gini ratio. Changes concerning this source of income accounted for 142 per cent of the increase in inequality over the period!

Wages as a proportion of total income fell slightly over the period and its distribution became slightly more equal as well. Overall, wages exert a strongly equalizing effect on the distribution of income. Over the period under review it exerted a downward pressure on inequality.

But the dominant source of wage income, that from *regular* non-farm employment, has a disequalizing effect. In comparison, wages from *casual* non-farm employment, probably originating in the informal and small-scale sectors, are very strongly equalizing. Urban households derive a small proportion-3 to 4 per cent on the average - of their income from employment in farming activities. These wages have an equalizing effect on the distribution of income and this effect is by far stronger for wages derived from casual employment.

As in the case of rural Bangladesh, we surmise that the explanation for the disequalizing (less equalizing) effect of wages from regular employment, as distinct from casual employment, lies in that these categories of employment, located mostly in the formal sector, require more human capital with which high-income households are better endowed. Casual employment, located mostly in informal and small-scale activities, requires less human capital and is more accessible to low-income households.

TABLE VIII

URBAN INCOME INEQUALITY AND ITS SOURCES

Sources of Income	Share of Total Income (%)		Gini/Concentration Ratio		Contribution of Income Component to Overall Inequality (%)	
	$100q_i$		C_i or G		$(100q_iC_i)/G$	
	1991/92	1995/96	1991/92	1995/96	1991/92	1995/96
Farm Income	6.09	5.80	0.115	0.226	2.1	3.4
Self-Consumption	—	2.18	—	0.146	—	0.8
Marketed Output	—	2.84	—	0.324	—	2.4
Residual Farm Income	—	0.78	—	0.094	—	0.2
Wage	36.55	35.84	0.276	0.266	30.8	24.5
Regular Agric. Wage	0.97	1.89	0.248	0.327	0.7	1.6
Casual Agric. Wage	2.28	1.95	-0.153	-0.173	-1.1	-0.9
Regular Non-Ag. Wage	20.40	20.50	0.406	0.421	25.3	22.2
Casual Non-Ag. Wage	10.01	8.11	0.087	0.030	2.6	0.6
Other Wage/Pension	2.89	3.39	0.371	0.113	3.3	1.0
Non-Farm Enterprise	28.42	37.70	0.306	0.464	26.6	45.0
Property Income	3.76	3.42	0.643	0.644	7.4	5.7
Transfer	9.27	7.20	0.427	0.581	12.1	10.8
Rental Value of Housing	9.19	6.78	0.434	0.410	12.2	7.1
Miscellaneous Income	6.72	3.26	0.424	0.442	8.7	3.7
Total Income	100.00	100.00	0.327	0.389	100.00	100.00

Note : See note to Table VI for an explanation of the notation. Due to error in rounding, the sum of the components does not always exactly match the totals.

Urban households also derive a small proportion of their income from farm enterprise. This source of income is highly equalizing although its equalizing effect became substantially weaker between 1991/92 and 1995/96. That this source of income has an equalizing effect on *urban income distribution* does not rule out the possibility that for the *distribution of income for Bangladesh as a whole* it is disequalizing. All that the above means is that this source of income is concentrated among low-income urban households who may be ranked much higher in the overall distribution for Bangladesh as a whole.

Transfer, constituting the (distant) third most important source of income has a disequalizing effect on income distribution. Over the period under review its share in total income fell while it also became far more disequalizing. This is the same pattern that was observed in the case of rural Bangladesh. These transfers are overwhelmingly from private sources. In the absence of necessary information, we are unable to explain why higher income households receive most of the private transfer except surmising that remittances from overseas migrants accrue mainly to richer households because they are better able to send their members abroad as migrants.

Rental value of owned housing, the next most important source of income has a disequalizing effect on the distribution of income. Over the period under review, it became less disequalizing and by 1995/96 it was rather mildly disequalizing a source of income. Property income, a much higher proportion of income in urban areas than in rural areas, is still small in relation to total income. It is however the most disequalizing of all sources of urban income. Miscellaneous sources of income, consisting of residual components that can not be classified under any other heading, have a disequalizing effect on the distribution of urban income.

The increase in urban inequality over the period under review is overwhelmingly explained by one source, non-farm enterprises. Not only did this source increase its share of total income to become the largest component, it was also transformed from a moderately equalizing source of income to a highly disequalizing source of income. The other disequalizing sources had a neutral effect or exerted a downward pressure on incremental inequality because of the decline in their shares of total income.

VI. THE DISTRIBUTION OF INCOME FOR BANGLADESH AS A WHOLE

The number of households and individuals in the two HES are as follows:

	1991/92		1995/96	
	Rural	Urban	Rural	Urban
Number of Households	3,840	1,920	5,040	2,380
Number of Individuals	20,544	10,253	26,460	12,590
Share of Sample Individuals (Per cent)	67	33	68	32

Thus the population share of the rural sample is about two-thirds of the total and slightly increasing between the two surveys. The actual proportion of Bangladesh population that represent rural residents was of course much higher and it probably fell a little over the period. The HES uses a rural share of 86.6 per cent for 1991/92 and 83.5 per cent for 1995/96 in calculating various national averages.[20] These are serious overestimates of the share of rural population which, according to the 1991 census, was about 80 per cent of total population of Bangladesh. To make the share of rural population closer to what it is, we have simply counted every household in the rural sample twice and added them to the urban sample of households in arriving at the sample of households for Bangladesh as a whole. This makes the population share of the rural area in the augmented sample for Bangladesh about 81 per cent. This seems close enough to the actual share of the rural area in the population of Bangladesh.

This procedure ignores any increase in the proportion of urban population that almost certainly occurred between the two surveys. It is, however, unlikely that the increase was very high over such a short period and, in any case, we do not have any independent and reliable estimate of the extent of urbanization over the priod.[21] It is nevertheless important to

[20] See BBS 1998, p. vii.

[21] To introduce any growth in the proportion of urban population we would have to sacrifice the convenient procedure of counting each household in the rural sample twice and replace it by drawing a random sample of the required proportion of rural households and augment the rural sample by it for the year 1995/96.

consider the possible effect of the failure to allow for increased urbanization. As the following analysis will show, an increase in the share of urban population, and hence in the share of urban personal income in the personal income for Bangladesh as a whole, would be to increase the overall Gini ratio for Bangladesh.

Table IX shows the Gini ratio of the distribution of income for the Bangladesh sample thus arrived as well as the concentration ratios of individual components of income. In addition, it shows the concentration ratios for total rural and total urban income.

TABLE IX

INCOME INEQUALITY FOR BANGLADESH AS A WHOLE AND ITS SOURCES

Sources of Income	Share of Total Income (%)		Gini/Concentration Ratio		Contribution of Income Component to Overall Inequality (%)	
	$100q_i$		C_i or G		$(100q_iC_i)/G$	
	1991/92	1995/96	1991/92	1995/96	1991/92	1995/96
Total Rural Income	71.89	68.22	0.196	0.213	46.5	40.5
Total Urban Income	28.11	31.78	0.578	0.672	53.6	59.5
Farm Income	31.50	25.74	0.261	0.261	27.1	18.7
Self-Consumption	—	11.31	—	0.192	—	6.0
Marketed Output	—	10.91	—	0.345	—	10.5
Residual Farm Income	—	3.52	—	0.224	—	2.2
Wage	25.67	29.80	0.235	0.258	19.9	21.4
Regular Agric. Wage	1.67	2.62	0.099	0.175	0.5	1.3
Casual Agric. Wage	7.05	6.14	-0.197	-0.190	-4.6	-3.2
Regular Non-Ag. Wage	9.51	11.40	0.549	0.575	17.2	18.3
Casual Non-Ag. Wage	5.86	6.97	0.230	0.179	4.4	3.5
Other Wage/Pension	1.58	2.66	0.426	0.221	2.2	1.6
Non-Farm Enterprise	19.01	25.01	0.319	0.462	20.0	32.2
Property Income	1.69	2.02	0.674	0.663	3.8	3.7
Transfer	10.44	8.81	0.371	0.590	12.8	14.5
Rental Value of Housing	8.15	5.98	0.390	0.362	10.5	6.0
Miscellaneous Income	3.51	2.64	0.508	0.417	5.9	3.1
Total Income	100.00	100.00	0.303	0.359	100.00	100.00

Note : See note to Table III for an explanation of the notation. Due to error in rounding, the sum of the components does not always exactly match the totals.

The estimation of the last-mentioned items needs explanation. Each rural individual is shown to have total rural income equal to his/her actual per capita income and zero urban income. Similarly, each urban individual is shown to have zero rural income and total urban income equal to his/her actual per capita income. Pseudo-Lorenz distributions for total rural income and total urban income are then estimated from the ranking of all the persons in the reconstituted Bangladesh sample according to per capita income. Concentration ratios for total rural and total urban income are estimated from these pseudo-Lorenz distributions.

Rural income has a highly equalizing effect on the distribution of income for Bangladesh while urban income has a highly disequalizing effect on it. Between the two periods under review, only 8 per cent of the increase in inequality for Bangladesh as a whole was contributed by the change in the level and distribution of rural income. The remaining 92 per cent of the increase in inequality was due to the change in the level and distribution of urban income. This simply means that if income is redistributed in favour of the rural (urban) areas the Gini ratio would fall (rise). For a one percentage point redistribution from the share of urban income to the share of rural income, with distributions for rural and urban incomes remaining unchanged, the overall Gini ratio would decline by 1.3 per cent (i.e., by 0.005). The reason for this is that rural Bangladesh has a far greater concentration of lower-income population than does urban Bangladesh.

The urban/rural inequality has increased very sharply in recent years. This was largely due to the stagnation of agriculture in the early 1990s. This had a major disequalizing effect on the distribution of income for Bangladesh as a whole. Had the ratio of per capita urban income to per capita rural income been the same in 1995/96 as in 1991/92, the Gini ratio for Bangladesh as a whole would have been 0.336 instead of 0.359 asuming that intra-rural and intra-urban inequalities for 1995/96 remained the same.

For Bangladesh as a whole the Gini ratio of income distribution is 0.303 for 1991/92 and 0.359 for 1995/96. These estimates are considerably lower than the BBS estimates of respectively 0.388 and 0.432. Once again, the difference is due

to the difference in income definition and the criterion of ranking followed by the two sets of estimates and, once again, the *proportionate* increase in inequality is higher according to our estimates than according to the BBS estimates.

Most of the results for rural and urban Bangladesh hold for Bangladesh as a whole, often with greater force. Wages, the single largest source of income for Bangladesh as a whole in 1995/96 (second largest in the earlier period), have an overall equalizing effect on the distribution of income. But regular non-farm wages, the single largest component of wage income, is an exception and it is far more strongly disequalizing for Bangladesh as a whole than for either rural or urban areas. All other sources of wage income have an equalizing effect. Casual agricultural wages are the most equalizing of all sources of income with a negative concentration ratio; the households in which this source of income is concentrated are at the very bottom of the income distribution scale. The poorest half of the population receive 65 per cent of all income from casual agricultural wages in both years while the top decile receive only two to three per cent.

Entrepreneurial income from farming, the second most important source of income in 1995/96 (the most important in the earlier period), has a strongly equalizing effect on the distribution of income for Bangladesh as a whole, unlike the case for rural Bangladesh where it is mildly disequalizing. The reason is that the households that have a concentration of income from this source are relatively lower in ranking according to per capita income in Bangladesh as a whole than in rural Bangladesh. Even income from marketed farm production, a rather strongly disequalizing source of income for rural Bangladesh, is mildly equalizing for Bangladesh as a whole on the evidence for 1995/96.

Entrepreneurial income from non-farm activities, the third most important source of personal income in Bangladesh, has a disequalizing effect. This effect is stronger than for rural Bangladesh and about as strong as for urban Bangladesh.

Transfer, accounting for the (distant) fourth most important source of personal income, is strongly disequalizing as in the cases of both rural and urban areas. Rental value of housing, the next most important source of income, is significantly

disequalizing in 1991/92, but almost neutral in terms of its effect on distribution in 1995/96. Property income, a mere 2 per cent of all personal income, is the most disequalizing of all income sources. Miscellaneous sources of income are strongly disequalizing in 1991/92 and moderately disequalizing in 1995/96.

VII. THE DISTRIBUTION OF EXPENDITURE

The analysis of the distribution of expenditure follows the same method as the one adopted for the analysis of income distribution. The concentration ratios for the components of expenditure have to be interpreted differently from the way the concentration ratios for the sources of income were interpreted. Sources of income were said to be "causing" inequality in the distribution of income. The same direction of causation does not apply in the case of expenditute. It is more reasonable to think of aggregate expenditure as the determinant of expenditure on individual components. Thus the concentration ratios are best interpreted as indicators of expenditure elasticities of demand: a component of expenditure with a lower (higher) concentration ratio than the Gini ratio of total expenditure could be said to have an expenditure elasticity of demand of less (more) than one. Because of this, it is less important to report the concentration ratios comprehensively. Our analysis focuses on the major items of expenditure, including those which have implications for income distribution via their effect on the productivity of human capital.

Table X shows the Gini ratio of the distribution of expenditure and the concentration ratios of seven components of expenditure which together account for approximately 90 per cent of all household expenditure. As is well known, the Gini ratio for the distribution of expenditure is significantly lower than the Gini ratio for the distribution of income :

	Rural		Urban		Bangladesh	
	1991/92	1995/96	1991/92	1995/96	1991/92	1995/96
Income Gini Ratio	0.276	0.310	0.327	0.389	0.303	0.359
Expenditure Gini Ratio	0.249	0.277	0.311	0.361	0.283	0.316

This is because of the well known phenomenon that the saving (dissaving) rate increases (decreases) as income rises. At low levels of income, consumption tends to exceed income and the balance is financed by borrowing or liquidation of assets. At high levels of income, consumption is lower than income and the difference is used to acquire assets which augment earnings in later time periods. This is reflected in the difference in the gap between the expenditure Gini and the income Gini between rural and urban areas; the *proportionate* gap is higher in rural Bangladesh than in urban Bangladesh. This seems to indicate a more extensive operation of the survival mechanism through borrowing and liquidation of assets in rural Bangladesh than in urban Bangladesh.

TABLE X

INEQUALITY OF EXPENDITURE DISTRIBUTION

Expenditure Categories	Rural	Urban	National
	1991/92		
	Gini Ratio		
Total Expenditure	0.249	0.311	0.283
	Concentration Ratios of Expenditure On		
Food	0.203	0.220	0.217
Clothing and Footwear	0.259	0.270	0.274
Housing	0.436	0.489	0.506
Fuel and Lighting	0.159	0.243	0.216
Cleaning and Cosmetic	0.198	0.269	0.249
Education	0.570	0.527	0.604
Male	0.577	0.531	0.598
Female	0.555	0.521	0.613
Medical Expenditure	0.296	0.394	0.343
Male	0.322	0.381	0.348
Female	0.264	0.408	0.337
	1991/92		
	Gini Ratio		
Total Expenditure	0.277	0.361	0.316
	Concentration Ratios of Expenditure On		
Food	0.219	0.254	0.232
Clothing and Footwear	0.249	0.337	0.293
Housing	0.390	0.506	0.497
Fuel and Lighting	0.155	0.175	0.173
Cleaning and Cosmetic	0.242	0.276	0.273
Education	0.491	0.527	0.563
Male	0.495	0.540	0.556
Female	0.484	0.430	0.573
Medical Expenditure	0.343	0.344	0.348
Male	0.321	0.366	0.339
Female	0.367	0.320	0.357

Another point worth noting is that for expenditure the national Gini ratio is a smaller proportion of the average of the rural and urban Gini ratios than for income. This is because urban/rural inequality in per capita expenditure is less than in per capita income. Barring a difference in the accuracy of coverage in the two locations, this again may be the reflection of a more extensive operation of survival mechanism in rural areas through borrowing and liquidation of assets.

The seven expenditure categories shown in Table X can be divided into two distinct groups. Food; Clothing and Footwear; Fuel and Lighting; and Cleaning and Cosmetics have concentration ratios that are lower than the Gini ratios (Clothing and Footwear for rural Bangladesh for 1991/92 being an exception). This indicates that their expenditure elasticities are less than one. For Housing, Education and Health (urban Health in 1995/96 being an exception) the concentration ratios are higher than the Gini ratios, indicating that their expenditure elasticities are greater than one. This is also the case for the items of expenditure not shown in Table X. The very high concentration ratios for expenditure on education are of particular significance. Expenditure on education represents private investment to promote access to human capital. This is characterized by three major kinds of inequity. The first is the substantially lower investment in education by the rural population than by the urban population as indicated by the difference in per capita expenditure on education in the two locations : in 1995/96 average urban expenditure was nearly four times as high as average rural expenditure. The second is the inequity between expenditure on education for the two sexes: expenditure for a male is about 80 per cent higher than that for a female in rural Bangladesh and about a third higher in urban Bangladesh. The third inequity is between income groups: the high concentration ratio indicates that expenditure on education increases disproportionately as per capita income and expenditure rise. The compounding of the three kinds of inequity makes per capita private expenditure on education on *male* members among the *top decile of urban* expenditure group 101 times as high as that on *female* members among the *bottom decile of rural* expenditure group in 1995/96! We earlier discussed the high inequality of access to high-paying, regular wage employment, especially in the high-paying, non-farm activities, and surmised that it is due to the inequality of access to human capital. High inequality of income and expenditure perpetuates itself by creating an extreme inequality of access to human capital. Public provision of education is limited and

public expenditure on education appears to be biased in favour of the high-income urban groups although almost certainly to a lesser extent than is private expenditure.

VIII. CONCLUSIONS

A Summary of Findings

The BBS estimates of personal income, based on the Household Expenditure Surveys, incorporate several non-income receipts whose inclusion, apart from making the estimate of income an inappropriate indicator of well-being, might bias the estimates of inequality. Personal income, re-estimated by this study after the exclusion of these receipts, are significantly lower than the BBS estimates. The estimates of personal expenditure made by this study are about the same as the BBS estimates with the exception that they are significantly lower for urban areas for 1995/96. The re-estimated income and expenditure create a problem of consistency for the year 1995/96 in so far as the implied saving rate turns out to be negative for rural areas and insignificant for urban areas. The only reasonable explanation for this is that there was a change in the accounting procedures between the two surveys.

The HES is the most extensive source of information for the monitoring of inequality and poverty in Bangladesh. The quality of monitoring must inevitably suffer if these problems persist. It is, therefore, essential for the BBS to overcome these problems by opting for a meaningful definition of income and ensuring intertemporally consistent measurements.

The BBS estimates of the Gini ratios of income distribution are based on a ranking of individuals by income *per household* rather than per capita income. This study adopts per capita income and per capita expenditure as the criteria of ranking for the estimation of the Gini ratios for income and expenditure distribution. It also makes a "decomposition" of the Gini ratios into sources of inequality by estimating the concentration ratios of individual components of income and expenditure.

Gini ratios of income distribution estimated by this study are substantially lower than the BBS estimates. BBS estimates suggest that Bangladesh is among the Asian countries with average or higher than average inequality. According to the estimates of this study rural inequality in Bangladesh must be judged to be low by Asian standards while urban inequality is above average for Asian countries (see below). These differences

reflect the differences in income definitions and the ranking criteria between this study and the BBS.

Inequality in the distribution of consumption expenditure is lower than the inequality in the distribution of income. This reflects the positive relationship between the proportion of income saved and the level of income.[22]

Both for income and consumption inequality is lower for rural Bangladesh than for urban Bangladesh. For Bangladesh as a whole rural income/consumption has a strongly equalizing effect while urban income/consumption has a strongly disequalizing effect on distribution. A redistribution of income from urban to rural Bangladesh would reduce overall inequality if intra-rural and intra-urban distributions were unchanged. Of the increase in overall income inequality between the two years only 8 per cent is explained by the change in income and its distribution in rural Bangladesh while the remaining 92 per cent is explained by the change in income and its distribution in urban Bangladesh.

That the inequality estimates of this study are lower than the BBS estimates does not indicate anything about the relative magnitudes of *change in inequality over time* between the two sets of estimates. The change in inequality over the period under review is proportionately greater for the estimates of this study than for the BBS estimates. This is true for both rural and urban areas as well as for Bangladesh as a whole.

The increase in inequality between the two periods was greater for urban Bangladesh than for rural Bangladesh. Despite the predominance of rural Bangladesh in terms of aggregate (not per capita) personal income, the increase in the income-Gini ratio for Bangladesh as a whole is closer to the (higher) increase in the urban income-Gini ratio than to the (lower) increase of the rural income-Gini ratio. This is the reflection of the combination of a sharp increase in inequality between average urban and average rural income in Bangladesh and a relatively higher increase in urban inequality.

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[22] For a number of countries, estimates of both income and expenditure Gini are shown in World Bank 1997 (CD ROM version). Without exception the former is greater than the latter. Also see the evidence for Indonesia in Table 11. In the same Table the expenditure Gini for Philippines is higher than income Gini; but this must be because the expenditure Gini is for a much later year by which time the income Gini must have risen to exceed the expenditure Gini.

Among the broad categories of rural income, wages are the only source that has an equalizing effect on the distribution of rural income in both the years. Wages from different types of employment, however, have different effects. The two largest components of wages have effects on overall distribution that are poles apart: casual agricultural wages, the largest source of wage income, has a remarkably equalizing effect whereas regular non-agricultural wages have a strongly disequalizing effect. Rental value of housing changed from being a disequalizing source in 1991/92 to an equalizing source in 1995/96. Income from farming has a moderately disequalizing effect which became even milder over the period. It, however, appears that income from the subsistence component of farming has an equalizing effect. The effect of income from non-farm enterprises changed sharply over the period from an equalizing source to a disequalizing source. All other components of rural income-transfer, miscellaneous income and property income-have a disequalizing effect on the distribution of rural income. The *increase* in rural inequality over the period was due to the increased inequality of distribution of pretty much all the components of income, rental value of housing, casual non-agricultural wages and the residual miscellaneous sources (including "residual" wages) being the only exceptions.

Among the broad categories of urban income, wages and entrepreneurial income from farming have an equalizing effect on income distribution. Wages from regular non-farm employment are however disequalizing. The effect of income from non-farm enterprises changed from being moderately equalizing to strongly disequalizing. All the other components of urban income are disequalizing in both years. The *increase* in urban inequality was, however, more than fully due to the increased inequality of distribution and the rising share of income from non-farm enterprises. All other sources together made a negative contribution to the rise in the income-Gini ratio.[23]

For Bangladesh as a whole, the classification of income components into equalizing and disequalizing categories by and large follows the same pattern as for rural and urban areas, often with greater force. There are some differences, however.

[23] Of all the other sources two-farm income and transfers-made small positive contributions to the increase in the Gini ratio while the remaining sources each made a negative contribution.

All components of farm income, including farm income from marketed output, are equalizing. Casual wage and agricultural wage are equalizing, casual agricultural wage being the most equalizing of all income components. Regular non-farm wage is however strongly disequalizing. Non-farm entrepreneurial income, transfer, property income and miscellaneous income are disequalizing. For Bangladesh as a whole, the *increase* in inequality over the period is overwhelmingly explained by the increased share and inequality of distribution of income from non-farm enterprise. Other components of income which made positive contributions to the increase in overall inequality are wages (which became less equalizing), transfer and property income.

Concentration ratios of expenditure indicate the degree of their expenditure elasticity. As expected, food, clothing, fuel and lighting, and cleaning and cosmetics are expenditure inelastic. All the remaining components are expenditure elastic. Of particular significance is the high concentration ratio of expenditure on education, indicating a great inequality of access to education among expenditure and income groups. Together with the locational inequality between rural and urban areas and the inequality between male and female members of given households, this represents an enormous inequality of access to human capital. Given that entry to high-paying employment categories (regular non-farm employment) depends on human capital endowment, this points to a vicious circle that helps perpetuate inequality in Bangladesh.

How Unequal is Bangladesh?

One way to address the question is to compare the Gini ratios estimated in this study with those for other Asian developing countries (Table XI). The Table makes a distinction between income and expenditure Gini ratios. And yet it is useful to note that the validity of inter-country comparison depends on the similarity of income/expenditure definitions and other procedures followed. We do not know much about these aspects of the comparability of estimates for different countries.

Income inequality in rural Bangladesh is lower than the same in any of the three Asian countries for which information appears in Table XI. Expenditure inequality in rural Bangladesh is the same as in Indonesia in the late 1980s, the only other country for which this information is available. Thus, rural inequality in Bangladesh still seems to be low by Asian standard.

Urban inequality in Bangladesh is not only higher than in China (which is still emerging from the past system of artificially enforced urban equality of the extreme kind) but also higher than in Indonesia. It is about the same as in Pakistan, a country not reputed for an egalitarian income distribution. Thus urban inequality in Bangladesh must be judged to be high, though not as high as in the most unequal urban societies in Asia (e.g., Thailand).

TABLE XI

LEVEL OF INCOME EXPENDITURE INEQUALITY BY SELECTED ASIAN COUNTRIES

Country	Year	Gini Ratios in Selected Countries		
		Rural	Urban	National
		INCOME		
Bangladesh	1991/92	0.276	0.327	0.303
	1995/96	0.310	0.389	0.359
China	1988	0.338	0.233	0.382
	1995	0.416	0.332	0.452
Indonesia	1996	—	—	0.365
Thailand	1992	0.464	0.492	0.543
Pakistan	1990/91	0.410	0.390	0.407
Malaysia	1995	—	—	0.464
Philippines	1991	—	—	0.450
		EXPENDITURE		
Bangladesh	1991/92	0.249	0.311	0.283
	1995/96	0.277	0.361	0.316
Indonesia	1987	0.277	0.329	0.321
	1993	—	—	0.317
India	1992	—	—	0.320
	1997	—	—	0.378
Pakistan	1996/97	—	—	0.312
Philippines	1997	—	—	0.462
Sri Lanka	1995	—	—	0.344

Source : China: Khan and Riskin 2001; Thailand: Krongkaew 1996; Pakistan 1990/91: Amjad and Kemal, 1997; Indonesia, 1987: World Bank 1990; India 1997, Indonesia, 1996, Pakistan 1996/97, Philippines 1996, and Sri Lanka 1995: World Bank 2000; and all other cases: World Bank 1997 (CD ROM version).

National inequality in Bangladesh is still low compared to the Asian countries shown in Table XI. Indonesia is the only country which has as low an inequality as Bangladesh for both income and expenditure.

Though Bangladesh has a low inequality relative to the other developing Asian countries, it has experienced a fairly sharp increase in inequality over the period under review. As Table XI shows, this is also the case with two of the three other countries for which the Gini ratio is shown for multiple years. Inequality has increased in China and India, though not in Indonesia. This also appears to have been the case for most of the other countries in Table XI for whom only single-year estimates are shown.[24]

One could argue that Bangladesh's ability to tolerate an increase in inequality is very low. Not only is the level of its income lower than that of any other country shown in Table XI, but the rate of growth of its income is also lower than the average for those countries. Most of the other Asian countries in Table XI have experienced a far higher rate of growth than Bangladesh. Thus, for a given target level of proverty (rate of poverty reduction), these countries have been able to absorb a higher degree of inequality (a higher increase in inequality) than could Bangladesh. China, Thailand and Malaysia succeeded in achieving a low level, and a positive rate of reduction, of poverty in the past by the sheer force of very high growth, despite high (and often growing) inequality. For Bangladesh, reconciled to a lower rate of growth than what these countries experienced, the increase in inequality during the period under review has been a serious obstacle to poverty reduction.

This is confirmed by an illustrative estimation of the incidence of poverty in the years under review. Between 1991/92 and 1995/96 the headcount rate of rural poverty increased from 47 per cent to 53 per cent even if it is assumed that personal income grew at the rate estimated by the BBS. The estimated increase in poverty would of course be much higher if the growth rate in personal income is the same as ours. For urban areas the headcount rate of poverty increased slightly on the assumption that personal income grew at the rate estimated by us and declined substantially-from 30 per cent to 22 per cent-on the assumption that personal income increased

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[24] Evidence available for Thailand, Pakistan and Sri Lanka, from the sources shown in Table XI, indicate that those countries have experienced increasing inequality since the late 1980s.

at the implausibly high rate estimated by the BBS. Even in the latter case, the rate of reduction in poverty would have been twice as high if the distribution of income had remained the same as in 1991/92.[25] Bangladesh's ability to reduce its high incidence of poverty at a socially acceptable rate depends to a great extent on its ability to arrest and reverse the trend of increasing inequality in the distribution of income.

Implications for Priorities for Inequality-Avoiding Growth

And yet the evidence of this study indicates that, in the absence of coutervailing changes in policies and institutions, growth in Bangladesh is likely to induce greater inequality. This is because the disequalizing components of income (notably income from non-farm, enterprise and regular non-farm employment) are highly GDP elastic while the equalizing components of income (most importantly, income from farming and casual employment) have rather low GDP elasticity.[26] Of course, there is nothing immutable about the disequalizing effect of a particular component; but, as argued earlier, it is unlikely that the major disequalizing components will become less so unless changes occur concerning such things as their ownership structure and technology. As argued above, the reversal of agricultural stagnation by itself is unlikely to make the distribution of rural income more equal.

A comprehensive discussion of policies for egalitarian growth is outside the scope of this paper. Some of the priorities for arresting, and possibly reversing, the forces of inequality that emerge from the findings of this paper are, however, worth highlighting. An obvious priority is to redistribute resources in favour of the rural economy, especially for small-farmer agriculture. An increase of resources for agriculture should have a particularly powerful equalizing effect if growth in agriculture coincides with the enhancement of the access of the smaller landowners to water, credit and modern inputs. The distribution of income would also benefit from a further redistribution of land if such a redistribution were feasible within a market-friendly framework, avoiding "negative externalities" (e.g., social confrontation leading to dislocations

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[25] These estimates have been made by using the poverty lines that Ravallion and Sen 1996 used for the year 1991/92 and updating them for 1995/96 by using the *rates of change* in the rural and urban consumer price indices estimated by the BBS.

[26] Rental value of housing became more equalizing (less disequalizing) between the two years. This too is a declining proportion of income.

in production), and from other forms of institutional reform promoting better terms of access of the poor to land under tenancy arrangements.

In the long run, the share of agriculture in total output and income must fall-and fall fairly quickly-if Bangladesh succeeds in ensuring stable and uninterrupted growth. Will this inevitably increase inequality? While concentration ratios of individual components of income are unlikely to decline automatically as a result of growth, they could be reduced by appropriate policies. In this regard the promotion of non-farm economic activities deserves particular attention. A way to reduce the disequalizing effect of the growth of these activities is to ensure a high share of small scale, even informal, enterprises in this sector by carefully promoting a linkage between them and the modern, large-scale enterprises. The development experience of Japan and Taiwan are useful precedents in this regard.

The evidence that rural entrepreneurial income from non-farm activities is moderately disequalizing is in conflict with the widely-held hope that the promotion of small and informal enterprises will itself be an instrument for reducing inequality. The hope might yet be realized by additional interventions to improve the access of the low-income groups to these activities. The most important of these interventions is an egalitarian access to human capital which will make both wage and entrepreneurial income from these enterprises more equitable. This could be strengthened by egalitarian access to credit and technical assistance.

Fiscal intermediation by the government does not have much of a role in influencing the distribution of income in Bangladesh. Existing taxes are reasonably progressive; but they account for a pitifully small proportion of income. The highest decile of expenditure group in Bangladesh has a direct tax burden which is 0.4 per cent of their expenditure. Similarly, transfers are by and large private which explains why they are so massively disequalizing. A more concerted effort to capture a modest proportion of income of the rich in the form of taxes and targeting a modest part of it to the poor as public transfer to enhance their human capital endowment and capabilities could have a powerful effect by way of improving the distribution of income.

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