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**Trends in Inequality, Welfare,
and Growth in Pakistan,
1963-64 to 2004-05**

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ABSTRACT

The present study investigates the trends in inequality, welfare, and growth based on per capita household income/consumption in Pakistan, both its rural and urban areas, from 1963-64 to 2004-05. It employs Gini coefficient to measure inequalities and the Sen welfare index to estimate welfare. Real per capita mean incomes/consumption are worked out to analyse growth. The study finds fluctuating trends in inequality, and rising trends in both welfare and growth. In general, inequality, welfare, and growth remain higher in the urban areas. The study finds income inequality to be more severe as compared to consumption inequality.

JEL classification: D31, D63

Keywords: Income Distribution, Welfare, Per Capita Income, Gini Coefficient, Pakistan

1. INTRODUCTION

Inequality, welfare and growth are related variables. Inequality mainly rises due to uneven distribution of gains from growth. On the other hand increased inequality can result in lower growth rates. So growth can never sustain without a proper income distribution in the country.

Welfare means the utility of people considered in aggregate. In Pakistan, where there is a basic problem of unsustainable growth over the years, economic growth has remained high but it has also failed to improve the living conditions of the poor segment of the society. To fulfil the needs of rapidly growing population and for their well being sustainable growth is required. For any given level of income in a country, high inequality has a direct, negative effect on welfare. There are good reasons to be interested in inequality and social welfare from the perspective of a comprehensive evaluation of public policies and social programmes that go beyond their impact on poverty. This fact has forced many researchers to conduct income distribution and welfare studies to suggest policies accordingly.

Motivated by this, the present study investigates inequality, welfare and growth based on per capita household income/consumption in Pakistan and its rural-urban areas by employing a consistent methodology. This consistency is in terms of welfare indicator, unit of measurement and measures employed. In specific the main objective of the present study is to present a consistent time series of (income and consumption) inequalities, welfare and growth in Pakistan and its rural-urban areas from 1963-64 to 2004-05.¹

The organisation of this paper is as follows: Section 2 reviews the studies on income (and consumption) inequalities and welfare in Pakistan. Section 3 discusses the data and methodological issues. Results are presented in Section 4. Finally, Section 5 draws some conclusions from the analysis.

2. LITERATURE REVIEW

A large number of studies have been conducted on the measurement of income or consumption inequalities in Pakistan.² Many of these have employed Gini coefficient to measure inequalities. However, a few have used Theil entropy measures [Theil (1967)], Atkinson's indices [Atkinson (1970)], coefficient of variation and variance of log incomes to measure the extent of income or consumption inequalities. The choice of income unit has been another issue of debate in the measurement of income inequalities. In Pakistan most of the studies took household as the income unit ignoring the household size, some

¹FBS published Data is available with gaps.

²Welfare on the other hand, is quite unexplored area in Pakistan. Haq (1998) is the pioneering study in this regard followed by Jamil (2004) and Tabassum (2005).

took per-capita household giving same weight to all household members and few took per-adult equivalents. Another difference lies in the choice of economic well-being indicator. Most of the studies have taken income as the indicator of economic well-being, while only a few rely on consumption expenditures. Table 1 summarises the studies on the basis of these differences.

Table 1
*Comparative Analysis of Studies Measuring Income / Consumption
Inequalities in Pakistan*

Study	Data Source and Format	Period of Analysis	Region of Analysis	Welfare Indicator	Measure of Inequality	Unit of Measurement
Haq (1964)	Income tax data (Grouped)	1948-49 to 1957-58	Urban Pak.	Income	Gini coefficient, Pareto coefficient and Relative shares	Personal Income
Bergan (1967)	Income tax data HIES (Grouped data)	1963-64	Overall Pak. Rural Pak. Urban Pak.	Income	Gini coefficient	Household
Azfar (1973)	HIES (Grouped data)	1966-67	Overall Pak. Rural Pak. Urban Pak.	Income	Gini coefficient and Coefficient of variation	Household
Khandker (1973)	HIES (Grouped data)	1963-64 to 1968-69	Overall Pak. Rural Pak. Urban Pak.	Income	Gini coefficient	Household Household Per Capita
Naseem (1973)	HIES	1963-64 to 1970-71	Rural Pak. Urban Pak.	Consumption	Gini coefficient	Household Household Per Capita
Alauddin (1975)	HIES (Grouped data)	1963-64 to 1971-72	Rural Pak. Urban Pak.	Income and Consumption	Gini coefficient	Household Household Per Capita
Mahmood (1984)	HIES (Grouped data)	1963-64 to 1979	Overall Pak. Rural Pak. Urban Pak.	Income	Gini coefficient, Coefficient of variation, SD. of log of income, Theil Index and Atkinson index	Household
Choudhary (1984)	HIES (Grouped data)	1963-64 to 1979	Overall Pak. Rural Pak. Urban Pak.	Income	Coefficient of variation, SD. of logs of income, Deciles and Quintiles	Household Household Per Capita
Kruijk and Leeuwen (1985)	HIES (Grouped data)	1969-70 and 1979	Overall Pak. Rural Pak. Urban Pak.	Income	Gini coefficient, Coefficient of variation, SD. of logs of income and Theil index	Household
Ahmad and Ludlow (1989)	HIES (micro data)	1979 and 1984-85	Overall Pak. Rural Pak. Urban Pak. Provinces	Income and Consumption	Gini coefficient, Coefficient of variation, log- variance and Atkinson index	Household
Jehle (1992)	HIES (Grouped data)	1984-85 to 1987-88	Overall Pak. Provinces	Consumption	Atkinson Kolm-Sen index	Household Per Adult Equivalence
Jafri and Khattak (1995)	HIES (Micro data)	1979 to 1991	Overall Pak. Rural Pak. Urban Pak.	Income	Gini coefficient and Income shares	Household
Haq (1998)	HIES (Grouped data)	1979 to 1992	Overall Pak. Rural Pak. Urban Pak.	Consumption	Gini coefficient	Household Per Adult Equivalence
Ahmad (2000)	HIES (Grouped and micro data)	1992	Overall Pak. Rural Pak. Urban Pak. Provinces	Income	Gini coefficient, Coefficient of variation SD of logs of incomes, Theil Index and Atkinson index	Household and Household Per Capita
Jamal (2003)	HIES (Micro data)	1987-88 and 1998-99	Overall Pak. Rural Pak. Urban Pak.	Consumption	Gini coefficient and Ratio of Quintiles	Household Per Adult Equivalence
Anwar (2003)	HIES (Micro data)	1998-99 and 2001-02	Overall Pak. Rural Pak. Urban Pak.	Consumption	Gini coefficient	Household Per Adult Equivalence

It can be seen from Table 1 that almost all studies are conducted for a short period of time and their findings to some extent are not comparable with each other due to differences in measure of inequality, data source, indicator of well-being and unit of measurement. This can also be seen from Table 2, which briefly reviews the trends in income / consumption inequality in Pakistan based on the findings of earlier studies.

Table 2

Inequality Trends in Pakistan as Shown by the Earlier Studies

Author	Welfare Indicator	Area Coverage	Inequality Trends in the Sixties and Seventies						
			63-64 to 66-67	66-67 to 68-69	68-69 to 69-70	69-70 to 70-71	70-71 to 71-72	71-72 to 1979	
Khandker (1973)	Household Income	Pakistan	Decrease	Decrease	–	–	–	–	
		Rural	Decrease	Decrease	–	–	–	–	
		Urban	Increase	Decrease	–	–	–	–	
	Per Capita Income	Pakistan	Decrease	Decrease	–	–	–	–	
		Rural	Decrease	Decrease	–	–	–	–	
		Urban	Increase	Decrease	–	–	–	–	
Naseem (1973)	Household Consumption	Rural	Stagnant	Decrease	Decrease	Stagnant	–	–	
		Urban	Increase	Decrease	Decrease	Decrease	–	–	
	Per Capita Consumption	Rural	Decrease	Decrease	Decrease	Decrease	–	–	
		Urban	Increase	Increase	Increase	Decrease	–	–	
	Alauddin (1975)	Household Income	Rural	Decrease	Decrease	Decrease	Stagnant	Increase	–
			Urban	Increase	Decrease	Decrease	Decrease	Increase	–
Household Consumption		Rural	Decrease	Decrease	Stagnant	Decrease	Increase	–	
		Urban	Increase	Decrease	Decrease	Decrease	Increase	–	
Per Capita Income		Rural	Decrease	Decrease	Increase	Decrease	Increase	–	
		Urban	Increase	Decrease	Decrease	Decrease	Increase	–	
Per Capita Consumption	Rural	Decrease	Decrease	Decrease	Increase	Increase	–		
	Urban	Increase	Increase	Decrease	Decrease	Increase	–		
Mahmood (1984)	Household Income Gini	Pakistan	Decrease	Decrease	Decrease	Decrease	Increase	Increase	
		Rural	Decrease	Decrease	Increase	Decrease	Increase	Increase	
		Urban	Decrease	Decrease	Decrease	Increase	Increase	Increase	
	Household Income Coefficient of Var.	Rural	Increase	Decrease	Decrease	Decrease	Increase	Increase	
		Urban	Decrease	Decrease	Increase	Decrease	Increase	Increase	
	Household Income Atkinson Index	Pakistan	Decrease	Decrease	Decrease	Decrease	Increase	Increase	
Urban		Increase	Decrease	Decrease	Increase	Increase	Increase		
Choudhary (1984)	Household Income	Pakistan	Decrease	Decrease	Increase	Decrease	Increase	Increase	
		Rural	Decrease	Decrease	Decrease	Decrease	Increase	Increase	
		Urban	Increase	Decrease	Decrease	Decrease	Increase	Increase	
	Per Capita Income	Pakistan	Decrease	Decrease	Decrease	Decrease	Increase	Increase	
		Rural	Decrease	Decrease	Increase	Decrease	Increase	Increase	
		Urban	Increase	Increase	Decrease	Decrease	Increase	Increase	
Kruijk and Leeuwen (1985)	Household Income	Pakistan	–	–	–	–	–	Increase	
		Rural	–	–	–	–	–	Increase	
		Urban	–	–	–	–	–	Increase	

Continued—

Table 2—(Continued)

Author	Welfare Indicator	Area	Inequality Trends in the Eighties				
			1979 to 84-85	84-85 to 85-86	85-86 to 86-87	86-87 to 87-88	87-88 to 90-91
Ahmad and Ludlow (1989)	Household Income and Household Consumption	Pakistan	Increase	–	–	–	–
		Pakistan	Increase	–	–	–	–
		Rural	Increase	–	–	–	–
Jafri and Khattak (1995)	Household Income	Urban	Decrease	–	–	–	–
		Pakistan	Decrease	Decrease	Decrease	Increase	Increase
		Rural	Increase	Decrease	Decrease	Decrease	Increase
Haq (1998)	Consumption per Adult Equivalent	Urban	Decrease	Decrease	Stagnant	Increase	Increase
		Pakistan	Increase	Decrease	–	Increase	Decrease
		Rural	Increase	Decrease	–	Decrease	Decrease
Author	Welfare Indicator	Area	Inequality Trends in Late Eighties and Nineties				
			1987-88 to 1998-99	1998-99 to 2001-02			
Jamal (2003)	Consumption per Adult Equivalent	Pakistan	Increase	–	–	–	
		Rural	Increase	–	–	–	
		Urban	Increase	–	–	–	
Anwar (2003)	Consumption per Adult Equivalent	Pakistan	–	–	–	Increase	
		Rural	–	–	–	Increase	
		Urban	–	–	–	Decrease	

Table 2 clearly reveals contradiction among various studies. For instance Mahmood (1984) as compare to other studies, showed different trends in household income inequality for rural Pakistan in early 60s and for urban Pakistan during late 60s. Similarly results of Ahmed and Ludlow (1989) and Jafri and Khattak (1995) are also in conflict. These differences are due to differences in methodology adopted by different studies. Hence the results of earlier studies are not comparable. So a consistent series of the estimates of income and consumption inequalities is required to analyse the long run trend in income/consumption distribution in Pakistan. The present study is an attempt to bridge this gap by not only providing a long period consistent series of income and consumption inequalities, but also by analysing the trends in welfare and growth.

3. THE DATA AND METHODOLOGICAL ISSUES

In this section we will cover the methodological issues like data selection, choice of income unit and selection of inequality and welfare measures.

3.1. Data Source

The present study is based on published data sets of Household Integrated Economic Surveys (formerly called Household Income and Expenditure Surveys). HIES grouped data on income and expenditure in Pakistan is available since 1963-64 and the last available survey year is 2004-05 at the time of our analysis.

To give a consistent long-term analysis of income distribution and welfare we need the data for all years in the same format. Micro data is available only for last few years, while published grouped data is available since 1963. Thus the objective of presenting a long-term trend in inequality and welfare

from the last four decades in Pakistan can be fulfilled only by grouped data of HIES so we are making use of grouped data. Grouped data ignores within group inequality and thus underestimates true inequality. However, the extent of underestimation depends on the number of income groups. It appears from empirical exercises that when using ten or more income brackets the underestimation error is vary small [see Kruijk (1986) and Mahmood (1984)]. Till the year 1998-99 HIES provides data for more than ten income brackets. For the years 2001-02 and 2004-05 we used micro data to make groups, as it is available in quintiles. Thus, the survey years for this study are 1963-64, 1965-66, 1968-69, 1969-70, 1970-71, 1971-72, 1979, 1984-85, 1985-86, 1986-87, 1987-88, 1992-93, 1996-97, 1998-99 2001-02 and 2004-05. The area coverage of the study is overall Pakistan and its rural-urban areas.

3.2. Welfare Indicator

There are certain indicators of the well-being or standard of living of an individual like freedom of choice, access to basic needs etc., but the two most important and commonly used indicators of welfare are income and consumption. Although income is most commonly used as the proxy of all these welfare indicators, consumption expenditure can also be used for this purpose. There are both advantages as well as disadvantages of choosing one of these two indicators like when income is taken as welfare indicator the problem of under-reporting arises. Consumption better represents the true living standard and has the least chances of under reporting. But the problem arises in the calculation of expenditures on non-food items, particularly in case of consumption expenditure on durable goods. In our present study, we are making use of both indicators of welfare.

3.3. Frame of Reference

The frame of reference can be chosen between household, household per-capita and household per-adult equivalence. The required information for calculating household per-adult equivalence is not available in HIES published data. So we are left with only two options, i.e., aggregate household and per capita household. The choice of the household as the frame of reference ignores the household size while per capita measure takes household size into account and thus provides a better picture. Therefore in the present study, we have measured inequality using per capita household as the frame of reference.

3.4. Selection of Measures

(a) *Inequality Measure*

An inequality measure satisfying certain desirable properties can be regarded as a good inequality measure. These are: (i) The Pigou-Dalton transfer

principle: It requires that the value of measure should decrease as a result of progressive transfer. (ii) Income scale independence: It implies that measure should remain invariant to proportional changes in the income levels of all income units. (iii) The population principle: It requires an inequality measure to be invariant to replications of the population. (iv) Decomposability: It implies that measure should allow division of overall inequality into sub-groups/components inequality. (v) The limits of an inequality measure should be defined and interpretable. (vi) Symmetry: It implies that an inequality measure should be independent of personal identity of income unit.

Gini coefficient is one of the measures that fulfil all these properties and is the most widely used measure of inequality. In our analysis, we use the Gini coefficient as a measure of inequality because it has neat statistical and graphical interpretation. There are many approaches to define it, according to the most common approach called 'geometric approach' Gini coefficient is the ratio of the area between the line of absolute equality and the Lorenz curve to the total area below the line of absolute equality. Rao (1969) has given the following formula to calculate Gini coefficient through geometric approach:

$$G = 1 - \sum_{i=0}^{k-1} (P_{i+1} + P_i)(Q_{i+1} - Q_i) \quad \dots \quad \dots \quad \dots \quad \dots \quad (1)$$

where, G is the Gini Coefficient, P_i is the Cumulated proportion of Income variable and Q_i is the Cumulated Proportion of Population variable corresponding to i th income unit, when all income units are arranged in ascending order of income.

(b) Welfare Measure

For the measurement of welfare Sen's welfare index (1974) is used which takes into account both the size and the distribution of income. Thus one of the advantages of using Sen welfare index is that it is Gini-based. It is defined as:

$$W = \mu(1 - G) \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad (2)$$

Where, μ is the mean income and G is the Gini coefficient measuring inequality. Welfare will be maximum and equal to the mean income when there is no inequality (i.e., $G = 0$) and welfare will be zero when inequality is maximum (i.e., $G = 1$).

(c) Real Mean Income and Consumption

The variations in real income / consumption show the true variations in purchasing power of income units. They are obtained by inflating / deflating nominal mean figures with consumer price indices.

To summarise the above discussion, we shall employ Gini coefficient and Sen welfare index to estimate per-capita household income (consumption) inequalities and welfare in Pakistan and its rural-urban areas for a period of almost forty years based on published data of HIES.

4. RESULTS AND DISCUSSION

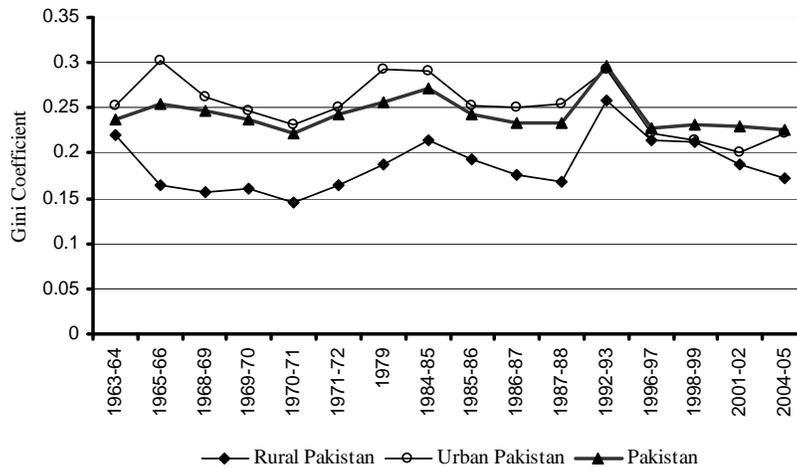
This section comprises of three sub-sections. In Section 4.1 we will discuss the results of income and consumption inequalities. Section 4.2 will present the estimates of income and consumption welfare. Finally in Section 4.3 we will discuss the trends in real mean incomes and consumptions.

4.1. Income and Consumption Inequalities

This section presents results on household per capita income and consumption inequalities for Pakistan and its rural-urban segments. The period of analysis is from 1963-64 to 2004-05. The utilised measure of inequality is Gini coefficient. For easy viewing and better comparative analysis the results are presented in figures. The statistical tables are shown as Appendix-A.³

The results of per capita household income inequality in Pakistan and its rural urban segments are presented in Figure 1.

Fig. 1. Time Profiles of Per Capita Household Income Inequality in Pakistan



³The estimates of inequality, growth and welfare for the provinces are also reported as Appendix-B.

The Figure shows that after initially increasing rapidly particularly in urban areas between 1963-64 and 1966-67, the income inequality declined both in rural and urban areas in the late 1960s. The decline in rural inequalities in the period between 1963-64 and 1970-71 may be the result of the 'green revolution'. Between 1966-67 and 1967-68, the years when the green revolution was at its peak, agriculture output grew by 11.7 per cent and it maintained a high growth rate of 9.6 percent in 1968-69 and 1969-70. So it seems that this growth benefited the low-income groups and thus caused a declining trend in income inequality.

There was a considerable increase in sample size in HIES for the year 1979. However the process of declining income inequalities was reversed from the start of the decade of seventies. After a significant deterioration in 1984-85 there was an improvement in the income distribution between the years 1985-87. But the level of inequality remained high during the period of improvement. High economic growth in agriculture and manufacturing sectors and capital inflow in the form of worker's remittances may be the reasons for this improvement. During 1986-87 agriculture sector grew by 3.25 percent [see Zaidi (2005)], and we find an improvement in the income distribution during this period and in the next year 1987-88.

Income distribution deteriorated in the period 1988-93. The initial impact of the structural reforms was deterioration in economic performance and income distribution. Results show that this impact was more severe in the short run. Lower GDP growth rates of 4.8 percent in 1988-89 and 2.1 percent in 1992-93 and increase in direct and indirect taxes and negative agricultural growth in 1992-93 may be the factors that contributed to this deterioration.

There was a significant improvement in income inequality in the mid nineties in overall Pakistan and its rural-urban areas. This trend in income inequality continued till the end of the decade but the improvement in 1998-99 was mainly in the urban areas of Pakistan. The level of inequality remained more or less same till 2004-05 with an increase in inequality in urban areas during the last year of our analysis.

This ends our discussion on the incidence of income inequality in Pakistan and its rural-urban segments. Income does not always necessarily reflect the true living standards. The households with high per capita income do not always necessarily enjoy high living standards. Consumption expenditure under such cases can be a better indicator of living standards. Moreover there are less chances of under-reporting in consumption expenditures as compared to income levels. In the present study it was, therefore, felt worthwhile to measure consumption inequalities along with income inequalities. The results of consumption inequalities in Pakistan and its rural urban segments are given in Figure 2.

Fig. 2. Time Profiles of Per Capita Household Consumption Inequality in Pakistan

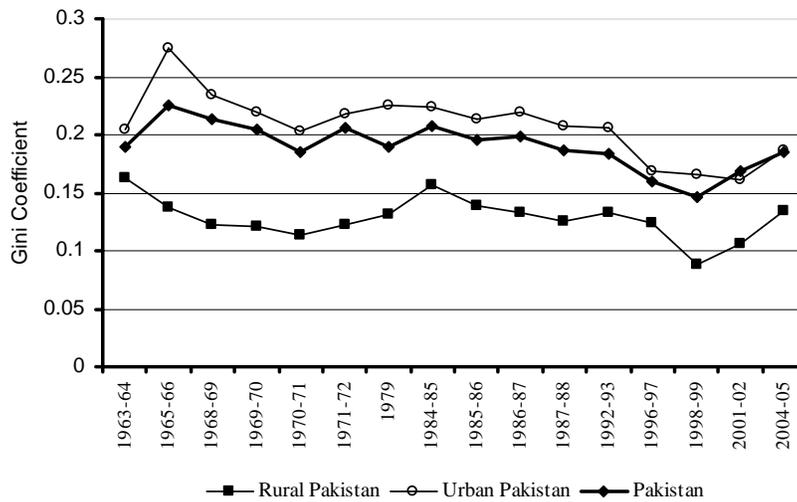


Figure 2 shows that till the mid eighties the pattern of change in consumption inequality is somewhat same as observed in case of income inequality. After that we observe that consumption inequality showed a declining trend till the year 1998-99 in overall Pakistan as well as its rural-urban areas but their level remained high throughout the decade of eighties and nineties. . This may be due to the fact that overtime consumption level of the middle and low-income groups is increasing with almost the same level of consumption for high-income groups. In the recent years consumption inequality seems to be increased again.

The pattern of changes in income and consumption inequality was same in the rural and urban areas; however, inequality was generally higher in the urban areas. This may be because urban wages are more unevenly distributed due to the more variations in the skills and education of the urban labour force. Increased urbanisation can be another factor responsible for higher inequalities in urban areas.

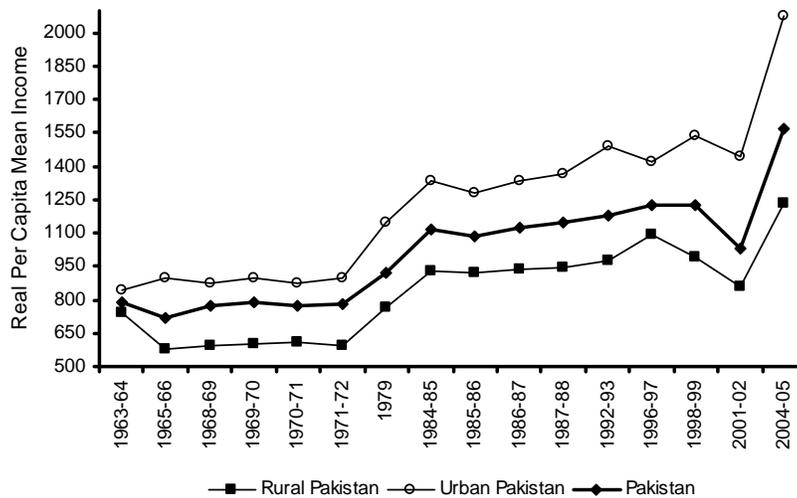
Interestingly the increase and decrease in inequalities can be attributed to the type of regime, military or elected government in Pakistan. The period 1979 to 1987-88 and 1999-2000–2004-2005 was governed by military and 1988-89 to 1998-99 by an elected government. In both regimes of military, an overall decreasing trend was observed in income and consumption inequalities, with exception of 1984-85. On the other hand income and consumption inequalities rose substantially in the beginning period of democratic era, i.e., inequalities were at their peak in 1992-93. There can be a number of factors behind this; one

possible reason may be political instability and inconsistency of government policies. Another reason can be devastating floods which destroyed major agricultural output leaving a severe impact on tenants of rural areas. The beginning of privatisation process in 1992-93 that resulted in a drastic cut in employment can also be one of the causes of high inequalities. This ends our brief discussion regarding the trend in income and consumption inequalities in overall Pakistan and its rural urban segments.

4.2. Growth in Income and Consumption

This section provides a consistent time series of real per capita household mean incomes and consumption expenditures. In order to calculate real estimates, the nominal figures are adjusted through Consumer price indices. The trends in real per capita household mean incomes and consumption are shown in Figures 3 and 4 respectively. The statistical tables are shown as Appendix-A.

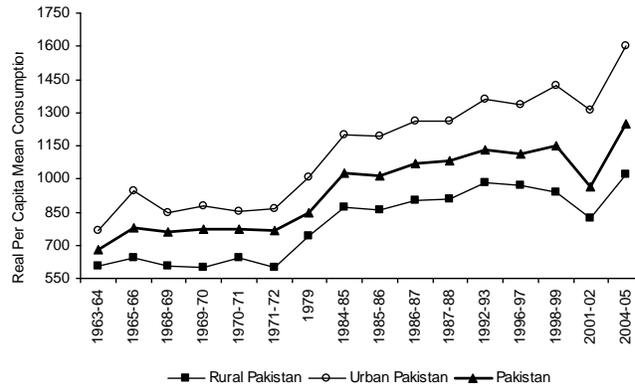
Fig. 3. Time Profiles of Per Capita Household Mean Incomes in Pakistan



The figures of per capita household real mean income and consumption in general show rising trends. However possibly due to high inflation rates the figures decline for few years.⁴

⁴The nominal figures throughout the period of analysis have rising trend.

Fig. 4. Time Profiles of Per Capita Household Mean Consumption Expenditures in Pakistan

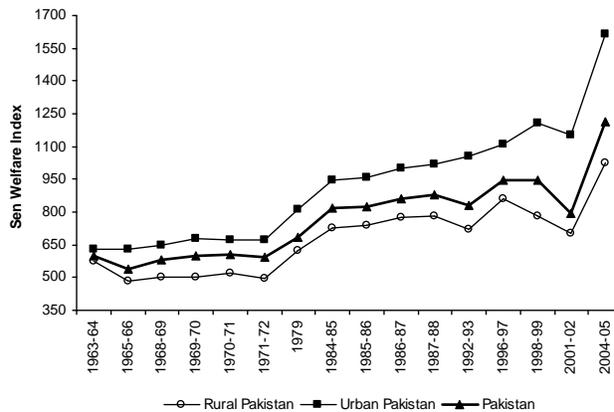


4.3. Income and Consumption Welfare

This section presents results on household per capita income and consumption welfare for Pakistan and its rural-urban segments. The period of analysis is from 1963-64 to 2004-05. The utilised measure of welfare is Sen welfare index. The results are presented in figures. The statistical tables are shown as Appendix-A.

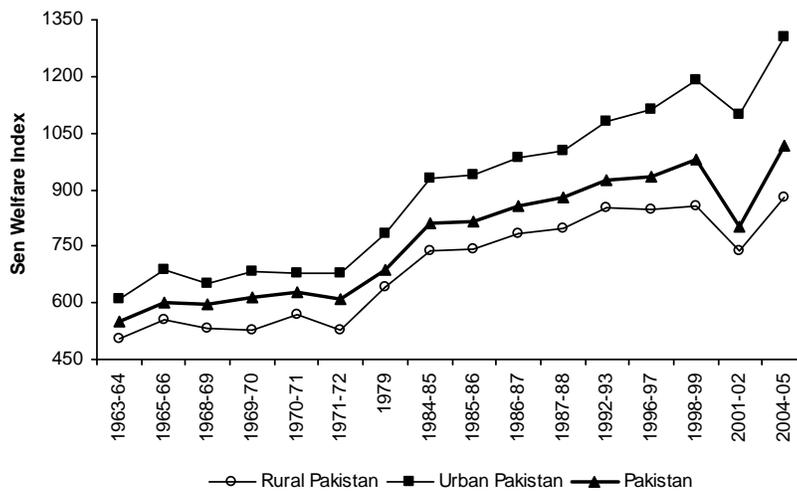
The results of per capita household income welfare in Pakistan and its rural urban segments are presented in Figure 5. Sen welfare index is mean biased as far as the Gini coefficient assumes a value less than 0.5. In case of Pakistan Gini never reached this value so we can see that trend in welfare is almost same as that of growth in real mean income.

Fig. 5. Time Profiles of Per Capita Household Income Welfare in Pakistan



From the Figure 5 it can be seen that welfare, generally, increased over the time. Welfare declined till the mid 60s in rural and overall Pakistan. In this period income inequality decreased but due to a decline in real mean income we see a decline in welfare as well. Welfare increased between the periods 1970-71 to 1987-88 due to the improvement in both per capita mean income and then income distribution as well in last years. Again we find a decline in welfare during 1987-88 to 1992-93, which was a period of high inequality and almost same per capita real mean income. After 1996-97 real mean income decreased and thus we find deterioration in welfare as well. However in urban areas it mostly showed an increase. In the year 1992-93, income inequality sharply rose and we find a decline in rural and overall welfare in that period. However in urban areas welfare increased because real mean income significantly increased there in that period. In the year 2001-02, we again find a decline in welfare in all areas whereas in the last year of our analysis welfare level increased in all areas due to a significant increase in per capita real mean incomes in those areas. The results of per capita household consumption welfare in Pakistan and its rural urban segments are presented in Figure 6.

Fig. 6. Time Profiles of Per Capita Household Consumption Welfare in Pakistan



Generally, welfare based on consumption expenditures also increased over the time as depicted by Figure 6. Again this was due to the increase in per capita real mean consumption from year to year. There are exceptions when welfare decreased as compared with previous years e.g., 1971-72 and 2001-02 where accordingly real mean consumption was low in these periods.

5. SUMMARY

The present study investigates trends in inequality, welfare and growth based on per capita household income / consumption in Pakistan and its rural-urban areas from 1963-64 to 2004-05. It has employed Gini coefficient to measure inequalities and Sen welfare index to estimate welfare. Real per capita income and consumptions are worked out to analyse growth patterns. The analysis are based on published data of HIES.

The estimates of per capita household income inequality showed fluctuating trends throughout the period of analysis. Income inequality with the exception of 1965-66 continues to decline in all regions of Pakistan till 1970-71. Thereafter income distribution got worsened till 1984-85. It once again showed declining trend till 1987-88 and rise afterwards. Finally figures of income inequality show slight improvement since 1996-97.

Most of the times both income and consumption inequalities followed same trends. The exceptions were found in mid 80s and early 90s in urban Pakistan. Rural Pakistan showed different trends during 2001-02. Another finding is that the extent of inequality in consumption has been by-and-large less than the extent of income inequality. The regional analysis in general shows that throughout the period of analysis income and consumption inequalities were more severe in urban areas than in the rural areas.

Generally real per capita household mean income (and consumption) increased over the time. Sen welfare index gives huge weight to mean income (and consumption) so the trend in welfare is almost same as that of growth in real mean income or consumption.

Policies can be devised to narrow the disparities based on these long term trends in inequality and welfare and emphasis should be on economic development rather than economic growth only. Improved access to education can raise the earning opportunity of the lowest income groups and thus can help in reducing income disparities and improving welfare. Rural areas benefited a lot from the green revolution of 1960s giving an indication of the importance of agriculture sector in Pakistan. Policies concentrating only on the industrial sector ignoring the agriculture sector would have adverse effects on the income distribution in the country. Thus it seems that there is a need of another “green revolution” along with a proper emphasis on the industrial sector. Furthermore, the need of political stability is crucial to avoid the inconsistency in public policies and to have their effective impact on the income distribution.

APPENDIX-A

Table 1-A

Per Capita Household Inequality in Pakistan and its Rural-Urban Areas

Years	Per Capita Household Income Inequality			Per Capita Household Consumption Inequality		
	Rural	Urban	Overall	Rural	Urban	Overall
1963-64	0.219	0.253	0.237	0.163	0.204	0.190
1965-66	0.164	0.302	0.255	0.137	0.275	0.226
1968-69	0.157	0.262	0.246	0.122	0.235	0.213
1969-70	0.161	0.246	0.237	0.121	0.220	0.205
1970-71	0.145	0.232	0.221	0.113	0.203	0.185
1971-72	0.164	0.250	0.242	0.122	0.218	0.206
1979	0.187	0.293	0.256	0.131	0.225	0.189
1984-85	0.214	0.291	0.271	0.156	0.224	0.208
1985-86	0.194	0.253	0.242	0.139	0.213	0.196
1986-87	0.176	0.250	0.234	0.133	0.220	0.198
1987-88	0.168	0.255	0.234	0.125	0.207	0.187
1992-93	0.259	0.293	0.297	0.133	0.206	0.184
1996-97	0.214	0.221	0.227	0.124	0.168	0.159
1998-99	0.212	0.214	0.231	0.088	0.165	0.146
2001-02	0.187	0.201	0.230	0.106	0.161	0.169
2004-05	0.172	0.222	0.226	0.135	0.186	0.185

Table 2-A

Per Capita Household Real Mean Incomes and Consumptions in Pakistan and its Rural-Urban Areas

Years	Per Capita Household Real Mean Incomes			Per Capita Household Real Mean Consumptions		
	Rural	Urban	Overall	Rural	Urban	Overall
1963-64	738.53	842.20	786.41	602.69	764.95	677.63
1965-66	576.82	901.56	722.22	643.09	945.72	778.59
1968-69	592.41	878.52	771.58	608.55	849.17	759.23
1969-70	599.21	897.04	785.05	600.96	877.14	772.11
1970-71	610.47	874.17	775.56	641.45	852.71	773.72
1971-72	593.17	894.82	781.62	599.57	867.79	767.13
1979	766.90	1144.68	919.14	739.79	1010.66	848.94
1984-85	928.06	1333.25	1119.34	874.12	1196.68	1026.40
1985-86	918.83	1279.35	1088.20	859.71	1193.35	1016.45
1986-87	939.28	1332.33	1123.25	902.00	1259.65	1069.41
1987-88	941.08	1365.79	1145.01	910.03	1263.27	1079.62
1992-93	976.22	1493.65	1179.81	981.50	1362.92	1131.58
1996-97	1091.20	1424.17	1222.11	967.94	1334.61	1112.10
1998-99	995.10	1539.15	1228.61	938.58	1425.02	1147.37
2001-02	861.57	1441.63	1029.89	823.71	1309.61	964.66
2004-05	1237.34	2077.21	1566.64	1018.19	1603.39	1247.56

Table 3-A

Per Capita Household Welfare in Pakistan and its Rural-Urban Areas

Years	Per Capita Household Welfare in Terms of Income			Per Capita Household Welfare in Terms of Consumption		
	Rural	Urban	Overall	Rural	Urban	Overall
1963-64	576.5	629.3	599.7	504.3	609.1	548.7
1965-66	482.4	629.2	537.8	554.8	685.4	602.8
1968-69	499.1	648.3	582.1	534.5	649.6	597.8
1969-70	502.6	676.5	599.0	528.3	684.6	614.1
1970-71	521.7	671.0	604.3	568.8	679.8	630.3
1971-72	496.0	671.5	592.3	526.6	678.9	609.3
1979	623.6	809.3	684.3	642.8	783.2	688.1
1984-85	729.6	945.8	815.9	737.4	928.4	812.5
1985-86	740.4	956.0	825.1	740.4	938.7	816.9
1986-87	773.9	998.6	860.4	781.6	982.3	858.0
1987-88	783.4	1017.2	876.6	796.5	1001.3	877.9
1992-93	723.6	1056.4	829.0	850.8	1082.4	922.9
1996-97	858.1	1109.2	944.4	847.4	1110.6	935.7
1998-99	784.3	1209.8	944.9	856.4	1189.2	979.3
2001-02	700.4	1152.4	792.7	736.1	1098.8	802.1
2004-05	1024.5	1616.1	1212.6	880.7	1305.2	1016.8

APPENDIX-B

Table 1-B

Per Capita Household Income and Consumption Inequalities in Provinces of Pakistan

Years	Per Capita Household Income Inequality				Per Capita Household Consumption Inequality			
	Punjab	Sindh	NWFP	Balochistan	Punjab	Sindh	NWFP	Balochistan
1979	0.247	0.262	0.291	0.190	0.188	0.208	0.172	0.135
1984-85	0.255	0.246	0.343	0.251	0.207	0.202	0.205	0.206
1985-86	0.244	0.233	0.239	0.232	0.202	0.201	0.166	0.151
1986-87	0.243	0.224	0.235	0.152	0.210	0.200	0.177	0.091
1987-88	0.247	0.234	0.214	0.155	0.205	0.182	0.154	0.111
1992-93	0.303	0.328	0.267	0.222	0.171	0.281	0.123	0.094
1996-97	0.241	0.212	0.210	0.169	0.162	0.193	0.105	0.082
1998-99	0.217	0.253	0.259	0.152	0.155	0.169	0.140	0.077
2001-02	0.261	0.241	0.223	0.136	0.198	0.190	0.143	0.086

Table 2-B

Per Capita Household Real Mean Incomes and Consumptions in Provinces of Pakistan

Years	Per Capita Household Real Mean Incomes				Per Capita Household Real Mean Consumptions			
	Punjab	Sindh	NWFP	Balochistan	Punjab	Sindh	NWFP	Balochistan
1979	871.14	1000.46	994.68	922.36	817.63	922.63	872.56	828.32
1984-85	1027.93	1219.28	1318.78	1061.42	960.28	1155.53	1087.77	963.02
1985-86	1045.86	1192.28	1043.92	1157.43	976.53	1130.82	978.77	997.30
1986-87	1068.91	1237.41	1098.98	1185.53	1026.47	1188.57	1048.64	1009.83
1987-88	1101.82	1261.48	1076.31	1208.10	1050.10	1181.54	1023.92	1061.63
1992-93	1252.47	1249.20	964.96	1119.43	1171.48	1185.02	976.40	1129.83
1996-97	1334.21	1303.29	975.97	1095.42	1168.81	1294.10	952.38	851.26
1998-99	1389.06	1236.93	999.48	1247.45	1234.72	1177.85	1007.49	1136.06
2001-02	1046.94	1070.82	890.47	1009.83	953.06	1048.81	875.85	901.83

Table 3-B

Per Capita Household Welfare in Provinces of Pakistan

Years	Per Capita Household Real Mean Incomes				Per Capita Household Real Mean Consumptions			
	Punjab	Sindh	NWFP	Balochistan	Punjab	Sindh	NWFP	Balochistan
1979	656.0	738.4	705.1	746.9	663.7	730.4	722.6	716.6
1984-85	765.6	919.7	866.3	794.8	761.7	922.0	865.0	764.6
1985-86	790.8	914.2	794.1	888.6	779.6	903.9	815.8	846.3
1986-87	809.1	960.5	840.4	1004.8	810.9	950.9	863.5	917.4
1987-88	829.6	966.6	845.7	1020.9	835.0	966.3	866.7	943.5
1992-93	873.5	839.8	707.6	870.6	971.7	852.4	856.6	1023.2
1996-97	1012.2	1026.7	770.7	910.7	979.1	1043.7	852.0	781.0
1998-99	1087.2	924.0	740.5	1057.3	1043.0	979.0	866.0	1049.0
2001-02	773.7	812.8	691.9	872.5	764.4	849.5	750.6	824.3

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