

## **TRENDS IN INCOME INEQUALITY AND POLARISATION IN PAKISTAN FOR THE PERIOD OF 1990-2008**

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"As the struggle proceeds,' the whole society breaks up more and more into two hostile camps, two great, directly ant agonistic classes: bourgeoisie and proletariat.' The classes polarize, so that they become internally more homogeneous and more and more sharply distinguished from one another in wealth and power" (*Deutsch, 1971, p. 44*)

### **ABSTRACT**

*The study aim is to examine the trends of polarisation and income inequality in Pakistan, its rural and urban segments and its four Provinces from 1990 to 2008. The study used the eight rounds of individual level household data of Pakistan for the years 1990-91, 1992-93, 1993-94, 1996-97, 1998-99, 2001-02, 2005-06 and 2007-08. The estimates of income inequality are made by using Gini coefficient, Generalized entropy and the Atkinson index whereas, the polarisation is calculated by Generalised Esteban et al., (1999) and Foster & Wolfson (1992) polarisation index. The study finds the fluctuating trends. In general, Income inequality and polarisation in all region of Pakistan increases from 1990-91 to 1996-97 and then it decreases till 2001-02. After that, it again increases till 2007-08. In recent years there has been much discussion of the difference between inequality and polarisation. The vast literature on inequality is held to miss out key features of distributional change, which are better described as changes in polarisation. The study finds that, contrary to theoretical expectation, the measures of polarisation do not generate very different results from the standard measures of inequality. It is expected that this study will enhance our understanding of when social forces contribute to economic inequality, polarisation, poverty, social tension, extremism and redicalisation in Pakistan. Results of the study will also guide and inspire policies to mitigate these phenomena. The study also analysis the trickle-down effect. Understanding the causes of inequality and polarisation in developing countries is a complex phenomenon. The study begins by empirically validating the evidence found in some previous studies on the correlates of income inequality with the data of present study. On other hand, the empirical evidence of polarisation measure in all regions of Pakistan is not available except very few studies, which are also not in detail.*

Key Words: - polarisation, Inequality, Income distribution, Welfare, Poverty.

### **1. INTRODUCTION**

The aim of this study is to empirically represent the trends in income inequality and polarisation in Pakistan from 1990 to 2008. The trends of income inequality and polarisation previously were calculated by Arshad *et al.*, (2008) in Pakistan for the period of 04 years from 1992-93 to 2001-02. In the said study the trends of income inequality and polarisation were estimated by Gini coefficient and Bossert and Schworm (2006) measures respectively. Whereas, the present

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study calculate the trends for eight years by using three (03) measures of income inequality and two (02) measures of polarisation. The study period is characterized by a combination of political and military governments. The empirical analysis of polarisation has huge importance in the economic policy making but now it has been quite ignored rather un-explored throughout the world. By now very few studies is conducted in this regard and most of the research have done in western countries with an exception of India. The area is unexplored in Pakistan, except very few studies which becomes the motivation of present study.

In spite of handsome economic growth rates and the rate of industrialization, why income distribution continues to be deteriorated in Pakistan and why masses could not be able to enjoy the fruits of development during this period? Social welfare has much importance in our daily lives regardless of the social status of human beings. For welfare analysis of the people, issues like inequality, poverty, per capita income and trickle-down effect need to be addressed. Much empirical studies have been done on these issues. Per capita income is not the proper measurement of the welfare in any economy because it illustrates a wide range of fluctuations behind the number. However, still it is treated as one of the foremost indicator of the wellbeing of the economy. The recent and more sophisticated tools to assess effectiveness of economic growth, development and economic advancement, not the single one has over-ruled the historical importance and simplicity of per capita income as a measure of the average level of prosperity in an economy. The per capita income in dollar terms has increased from \$586 in 2002-03 to \$10,466 in 2008-09. Real per capita income in rupee terms has also increased by 2.5 percent as compared to 0.3 percent growth last year (Pakistan, Government of, 2009; Economic Survey). It is very depressing for common people that their welfare is being ignored by authorities and concerned departments. "In Pakistan 30 to 35 percent of the population is living on one dollar a day" (World Bank, 2002). For these people, it is very hard to provide three square meals a day for family members. The economic policies of Pakistan are not consistent due to frequent change of the Governments and poor management.

Besides income (per capita GDP), it was found repeatedly that high inflation (particularly above a level of about 10 percent) hurts the poor and deteriorates income distribution. Further, inflation may be a good proxy for macroeconomic and fiscal stabilization in an economy which are also prerequisites for growth. Therefore, changes in food prices are used as a determinant of income inequality. Inflation rates decreases to 7.9 percent from 9.3 in 2005-06 (Pakistan, Government of, 2009; Economic Survey) and currently is 14.1 percent. The study will briefly explain a critical question, does economic growth trickle-down to the poor and impact on income distribution. Is there any relationship between income inequality and radicalisation/ extremism? Development expenditure, especially on social services is also important for improving income distribution. The rupee is depreciating at a rapid (nominal) rate with external financing becoming increasingly difficult. The debt situation has become unsustainable (Pakistan, Government of, 2011; Economic Survey). There need a debate about fate of the average Pakistani. It is asserted the income distribution is worsening.

In Pakistan numbers of attempts have been made to estimate the income or expenditure inequality using the Household Income and Expenditure Survey (HIES) data by various authors/institutions. The debate on trends in income inequality during the 1990s, an era of stabilization and structural adjustment has been wide-ranging in Pakistan. At the same time, the other dimension is ignored i.e. polarisation. Polarisation is a phenomenon that has attracted an increasing amount of attention recently, both in Economics and in other social sciences. The

polarisation refers to the situation when the middle class gets clustered towards the poles or in other words the incomes of any income distribution get closer to one or both extremes. This has been observed that, polarized societies are prone to competitive rent-seeking activities and will have difficulty agreeing on public goods such as infrastructure, education and good policies (Bossort *et al.*, 2007). In recent years there has been much discussion of the differences between inequality and polarisation. It has been argued that these capture different features of distribution and can move in opposite directions. At the same time, phenomena such as "the disappearing middle class" or "clustering around extremes" do not appear to be easily captured by standard measures of inequality such as the Gini coefficient. It is to characterize such phenomena that Esteban and Ray (1994), Foster & Wolfson (1992), Wolfson (1994), and Tsui and Wang (1998) Generalised Esteban *et al.*, (1999) have proposed alternative indices of polarisation. These indices seek evidence for clustering in the distribution of personal income at the lower and upper ends. It is claimed that, at least in theory, they represent a major departure from standard measures of inequality.

Existing measures of polarisation have been applied empirically in many countries. The polarisation of income distributions and its causes have been studied in Spain by Gradin (2000, 2002), in Italy by D'Ambrosio (2001), and in China by Zhang and Kanbur (2001). Duclos, Esteban and Ray (2004) present polarisation estimates for the income distributions of 21 countries taken from the Luxembourg Income Study. Seshanna and Decornez (2003) study polarisation for the distribution of income across countries in the world. Ravallion (1997) estimate Foster & Wolfson polarisation indices for 67 developing and transitional economies. Aighokan (2000) briefly alerts on the possible problem of Polarisation in Nigeria. Leonid (2002) estimates the regional inequality and polarisation in Russia. Arshad and Idrees (2008) briefly introduce the trends in Polarisation in Pakistan.

Specifically, the primary objectives of this study are as follows:

- i. To explore the trends of income inequality and polarisation in Pakistan overall and its urban and rural segments during 1990 to 2008.
- ii. To measure the relationship of income inequality and polarisation between all the provinces during the study period.
- iii. To find out the question: does economic growth trickle-down to the poor and impact on income distribution and is there any relationship of income distribution with inflation rate, radicalisation and extremism.

The study proceeds as the data, unit of measurement and the methodologies are discussed in section 2. Empirical analysis of Pakistan and its rural and urban segments are presented in section 3 whereas; section 4 shows the analysis of the Provinces. Section 5 explain the relationship of income distribution with growth rate and radicalization whereas, section 6 concludes the study.

## **2. FRAMEWORK OF STUDY**

The choice of data, unit of measurement and the methodologies used for the measurement of income inequality and polarisation are discussed in this section.

### **2.1 Data**

The data source of present study is various issues of Household Integrated Economic Survey (HIES)<sup>1</sup> conducted and published by Federal Bureau of Statistics (FBS), Government of Pakistan. The statistics show that during all the years more than 60 percent of the sampled households belong to rural areas of Pakistan (Table B1). The province wise distribution shows that the maximum number of households belongs to Punjab, followed by Sindh, Khyber Pakhtunkhwa (KPK)<sup>2</sup> and Balochistan (Table B2). Data were collected from the respondents by questionnaire based on direct interviews. Questionnaires have continuously been revised by Federal Bureau of Statistics. The first major revision took place in 1990-91. In 1998-99 Household Integrated Economic Survey (HIES) was merged with Pakistan Integrated Household Survey (PIHS), so the questionnaires was thoroughly revised and were split in two modules separately for male and female respondents. The rationale behind this sectioning was that none of either males or females is aware of all income and expenditure details. For instance a male may not be able to explain kitchen expenditures and a female may not be able to properly answer about household expenses.

The household and individual-level data used in our study comes from eight rounds of HIES (Table B3). In 1990, the HIES questionnaire was reformulated to address the requirements of a new system of national accounts and was merged into a larger survey called Pakistan Integrated Household Survey (PIHS). In 1998, the HIES data collection methods and questionnaire were again revised to depict the integration of the HIES with the PIHS. In 2005-06, PIHS was replaced with the Pakistan Social and Living Standards Measurement Survey (PSLM). PSLM incorporated the HIES as well as the Core Welfare Indicators (CWIQ). The survey consists of all urban and rural areas of the four provinces of Pakistan defined as such by the various population censuses concerned. For our purposes, household and individual level data was drawn from HIES 1990-91, HIES 1992-93, HIES 1993-94, HIES 1996-97, PIHS 1998-99, PIHS 2001-02, PSLM 2005-06 and PSLM 2007-08. Therefore, the data used in this study combining eight rounds of micro data from household surveys to make inference the trends in income inequality and polarisation.

## 2.2 Choice of Income Units

How the study use the data to manipulate the requisite outcome. There can be many options by the HIES/PIHS/PSLM data for the choice of income unit, i.e. aggregate household, per capita household income and per-adult equivalent. The aggregate household considers entire household as a single unit and thus ignores household size. Per capita household incorporates household size but gives same weight to all household members. Whereas ‘adult equivalence’ is a method based on the calories required by the males or females in different age groups. There is a huge literature on adult equivalences. Jamal (2006) has given a summary of different adult equivalence scales used in different studies for Pakistan. Among them the most acceptable is the calorie intake approach.

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

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<sup>1</sup> Most of the studies on inequality in Pakistan have used HIES data.

<sup>2</sup> KPK (Khyber Pakhtunkhwa) is a new name of NWFP, Which was changed in the 18<sup>th</sup> amendment of the Constitution of Pakistan, was passed by the National Assembly of Pakistan on April 8, 2010.

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. The present study focuses on the patterns and trends of regional inequality and polarisation in Pakistan from 1990 to 2008. Study calculates these trends in overall Pakistan, its urban and rural segment and in the four (04) Provinces of Pakistan. For each component, the study derives per capita real consumption expenditures from the HIES/PIHS/PSLM data.

## **2.3 Methodology**

The study calculates the trends in income inequality by two Lorenz-consistent inequality measures, namely the Gini coefficient (Cowell, 1995) and the Generalized Entropy (Shorrocks, 1984). The Gini coefficient is used here because it is the most commonly referred to measure of inequality and, therefore, can provide good benchmarking values. The Generalized Entropy (GE) measure is used here because one of the polarisation measures discussed later is derived from the GE. The Atkinson index of income inequality is also used in the subject study. The study also measures and discusses the polarisation, which is a concept distinct from inequality by the Generalised Esteban *et al.*, (1999) and Foster & Wolfson (1992).

## **3 EMPIRICAL ANALYSIS AT NATIONAL LEVEL**

### **3.1 Trends in Overall, Urban and Rural Income Inequality in Pakistan at National Level**

Gini coefficients, Generalized entropy and Atkinson measure of inequality for Pakistan as a whole as well as for urban and rural areas of Pakistan are estimated and explained in this section (Table A1). Gini coefficient of overall Pakistan increases with the sluggish pace from 1990-91 to 1998-99 almost 05 percentage points i.e from 0.298 to 0.343. After that from 1998-99 to 2005-06 it decreases 04 percentage points i.e. 0.343 to 0.306 followed by an increasing trends in 2007-08 (Figure 3.1). The results of Gini coefficients as calculated by Jamal (2006) also shows that Gini increases from 1990-91 to 1998-99 and later on it decreases till the study year 2001-02. Pakistan, Government of (2001), FBS also explain that Gini coefficient decreases from 1998-99 to 2001-02. The overall Generalized entropy increases with the energetic pace from 1990-91 to 1996-97 equal to 20 percentage points i.e. from 0.177 to 0.377. Subsequently from 1996-97 to 2005-06 it decreases 19 percentage points i.e. 0.377 to 0.182 followed by an increasing trends in 2007-08. The Atkinson measure of inequality shows the same trend as the generalized entropy shows but with the lesser variation. It increases from 1990-91 to 1996-97. According to World Bank (2002) for the same time period household income inequality rose from 0.26 to 0.47 Gini points; and the dynamics of it were very similar to this study. After that from 1996-97 to 2005-06 it decreases. The measures of inequality in Urban Pakistan illustrate that all the inequality measures increases from 1990-91 to 1992-93 followed by a decreasing trend in 1993-94. After that inequality increases till 1998-99 as shown by all measures. Afterward the urban inequality decreases till 2005-06 but it increases swiftly in 2007-08 (Figure 3.2). The measures of inequality in Rural Pakistan illustrate that all the inequality measures increases from 1990-91 to 1993-94 with the sluggish pace followed by a dynamic pace in 1996-97. After that income inequality decreases in 1998-99 with an active pace followed by a lethargic pace in 2001-02. After that the rural inequality increases till 2005-06. After that the rural inequality increases till 2007-08 (Figure 3.3). The rural Pakistan shows the different pattern with more deviations. It is

also observed that there is very high level of income disparities in the year of 1996-97, in which there is a very high level of income heterogeneity and income disparities which is exceptional.

Pakistan, Government of (2001) FBS show that overall, urban and rural Gini coefficient increases from 1992-93 to 1998-99. World Bank (2003) also indicates the same results in overall and urban Pakistan whereas, rural poverty decreases very minor from 1992-93 to 1998-99. Arshad *et al.*, 2008 also concluded that from 1992-93 to 1998-99 the overall, urban and rural income inequality increases whereas, from 1998-99 to 2001-02 it decreases. The present study also shows the similar trends as above cited studies indicate.

One possible explanation for this is that the rural incomes are more human labour based than urban incomes. That is why movement from household based data to persons based data has reduced the value of Gini coefficients more in rural areas than in urban areas. In other words high income households in rural areas are those which have more people living in those households and low income households are those which have less people living in them. That is why when incomes were re-divided on persons or per capita basis the inequality fell as high incomes of larger families were divided among more people and small incomes of smaller households were divided among people living in smaller households (Ahmed, 2000). The floods of 1992-93 have severe effect in the rural areas. The effects of destructive floods of 1992-93 were eliminated in year 1996-97 (Table A1). Consumption of rural population especially agricultural dependent persons went up again in rural areas. Secondly, the government after floods of 1992-93 gave special attention to the agriculturists (Arshad *et al.*, 2008). In urban areas on the other band, huge profits of stockiest, importers and constructors were eliminated. These reversed the situation of inequalities in urban and rural segments of the country. Increasing trends in inequalities are recorded till 1998-99. This period is critical with reference to the Structural Adjustment Programme. Kemal (2003) also concluded that “overall poverty and inequality increased during the adjustment phase” (UNDP Pakistan Report, 2009, Brief-3).

The year of 1996-97 is the period of maximum inequality in overall as well as in Rural Pakistan. Whereas, 1998-99 was the period of maximum inequalities in the urban Pakistan. This was the period during which Pakistan went for nuclear explosions. As an after effect of nuclear explosions, many developed nations imposed sanction on Pakistan by stopping foreign aid and other assistance. As a result poor segment of the society was affected adversely and thus inequalities rose in Pakistan and its urban segment. These statistics indicates that the sanctions of 1998-99 had more adverse effects on low-income groups of urban Pakistan, and thus reduced their consumption considerably, to deteriorate consumption inequalities ill urban areas and thus overall Pakistan. The reasons of more adverse effect on people of urban areas are obvious as many of them are employed in different projects of multinational companies, which suddenly stopped their investments, secondly government financed projects were also influenced. Prices of daily food items rose drastically and thus adversely affected the consumption levels of urban citizens. On the other hand, people of rural areas mainly depend upon agriculture and most of them do not purchase major food items such as rice, wheat, etc, from markets, so the inequality level of low income groups did not significantly affect the rural areas of Pakistan. Comparatively, increase in the level of rural inequality is more distinct than the magnitude of urban inequality.

### 3.2 Trends of Overall, Urban and Rural Polarisation Measures in Pakistan at National Level

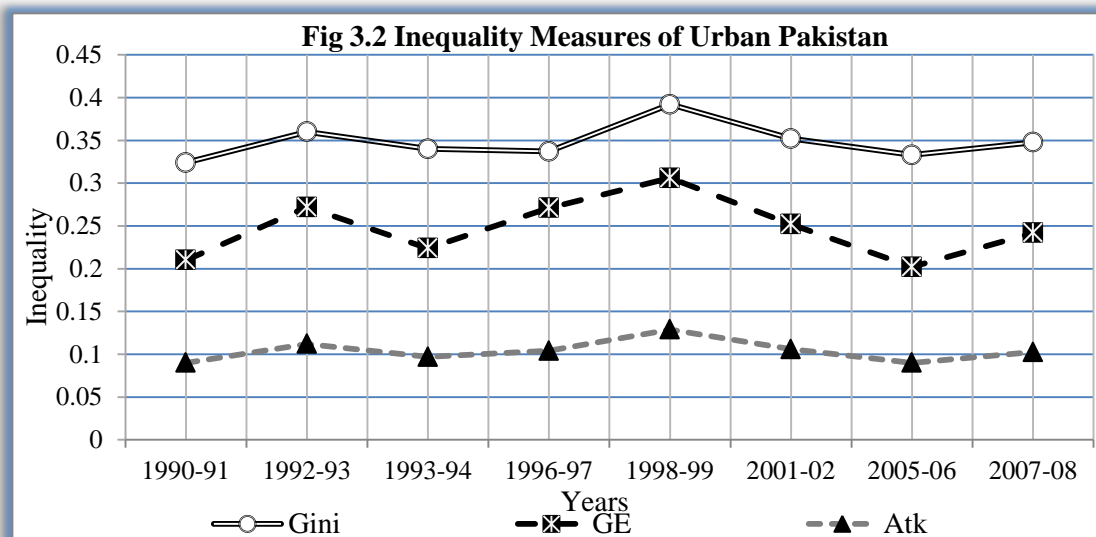
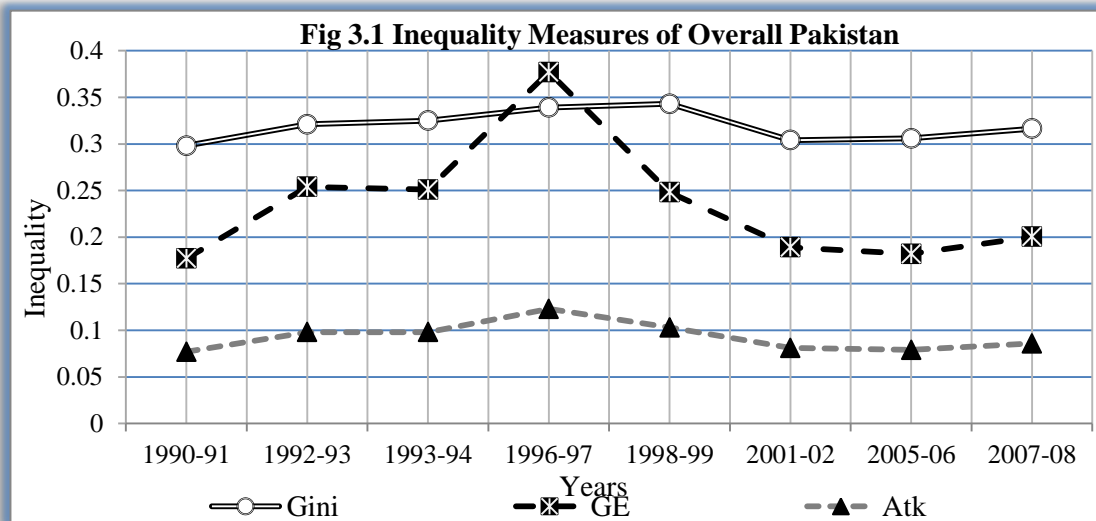
The estimation of polarisation calculated and described by two different methods i.e Generalised Esteban *et al.*, (1999) and Foster & Wolfson (1992) in Pakistan and its rural-urban segments in this section (Table A1). The trends of polarisation in Pakistan estimated by Arshad *et al.*, (2008) using the Bossert-Schworm measure (2006) and finds the same result as calculated by Foster & Wolfson (FW) measure of polarisation in the present study. While, Generalised Esteban *et al.*, (EGR) measures show a different results. Arshad *et al.*, (2008) estimates that polarisation decreases from 1992-93 to 1996-97 and then it increases from 1996-97 to 1998-99 followed by a decreasing trend in 2001-02 in overall, urban and rural Pakistan. The identical results in the current study are also shown by the Foster & Wolfson measure in the same time period (Table A1). The estimation of overall polarisation by Generalised Esteban *et al.*, indicates that there is a consistent increase till 1996-97 and then it decreases with the same pace. Whereas, the Foster & Wolfson measure of polarisation shows more fluctuations (Figure 3.4). The trends of urban polarisation from 1990-91 to 1992-93 increased in urban Pakistan by a dynamic pace as shown by two measures of polarisation. This increasing trend continues in urban Pakistan as shown by the measure of Foster & Wolfson while, Generalised Esteban *et al.*, show a declining trend. Then from 1996-97 to 1998-99 the urban polarisation increased as shown by both measures. Later on it decreases till the end of the study period (Figure 3.5). The rural polarisation explains the very steady trend over the study years. First it increases from 1990-91 to 1996-97 as shown by Generalised Esteban *et al.*, measure whereas, Foster & Wolfson measure shows an opposite trend in the same study period. Afterward, from 1996-97 polarisation measure of Generalised Esteban *et al.*, decreases till 2005-06 while, Foster & Wolfson measure shows a contrary trend (Figure 3.6).

The increasing trend of polarisation with the dynamic pace from 1990-91 to 1992-93 indicates that the middle class weak due to the adverse effects of flood in 1992-93. After that from 1992-93 to 1998-99 polarisation increases with the sluggish pace. The rising trend in the later years shows that the middle class strengthens over the years with little fluctuations till 1998-99. Afterward, polarisation decreases with a dynamic pace from 1998-99 to 2005-06. This declining trend is observed mostly by all the polarisation measures. This decline in polarisation has lot of factors involved i.e. helping of world's economics giants in favour of Pakistan because of fight against terrorism, the re-scheduling of loans etc. Furthermore, the government of this period has also worked a lot on poverty alleviation programmes like the commencement of Poverty Reduction Strategy Paper (PRSP) collaborated with the international agencies aiming to help poverty alleviation in Pakistan and improving the factors involved in social indicators. Due to increase in tax base by the present government, the burden of tax was somewhat shifted to companies and industrial sector as compared to the salaried class, which helped in strengthening of middle class (Arshad *et al.*,2008).

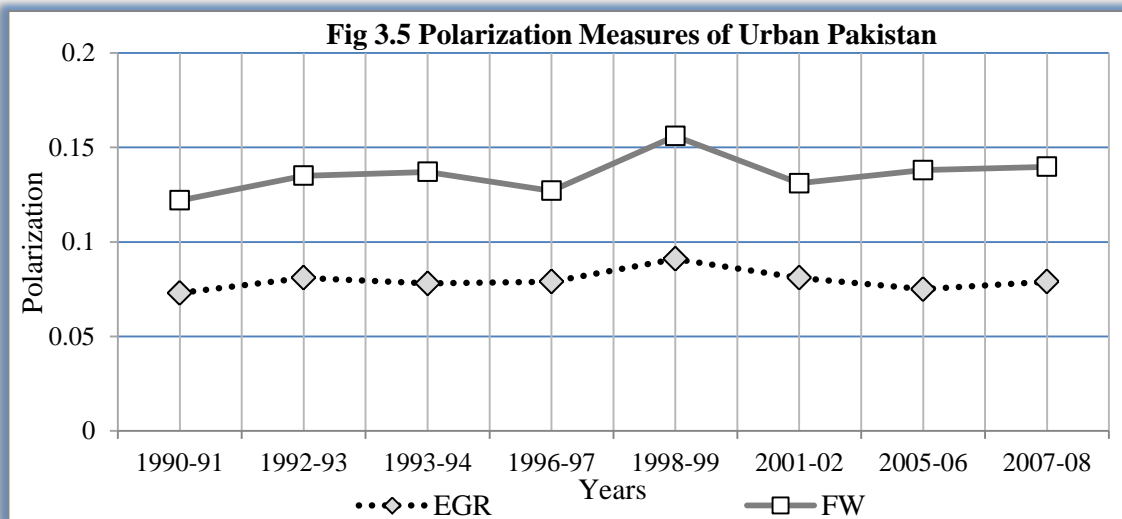
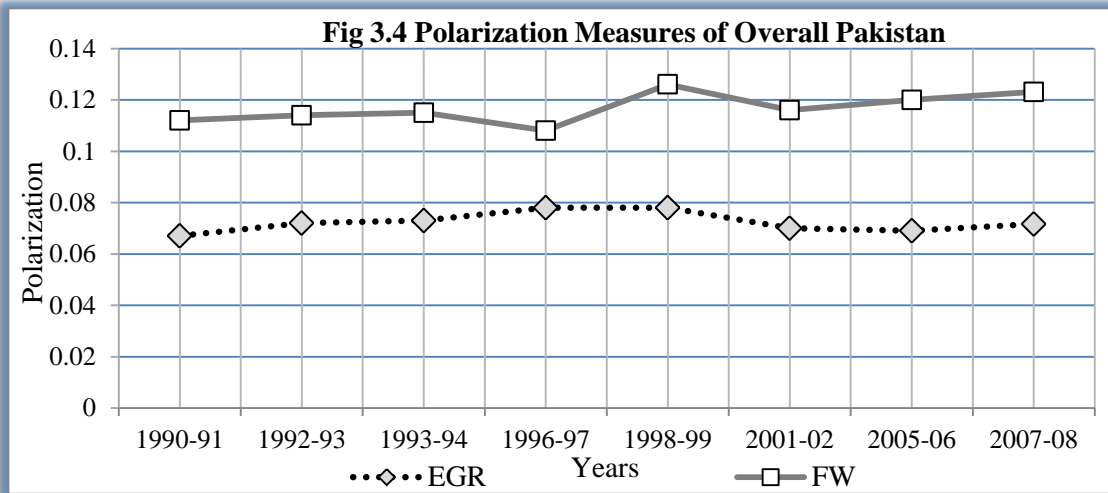
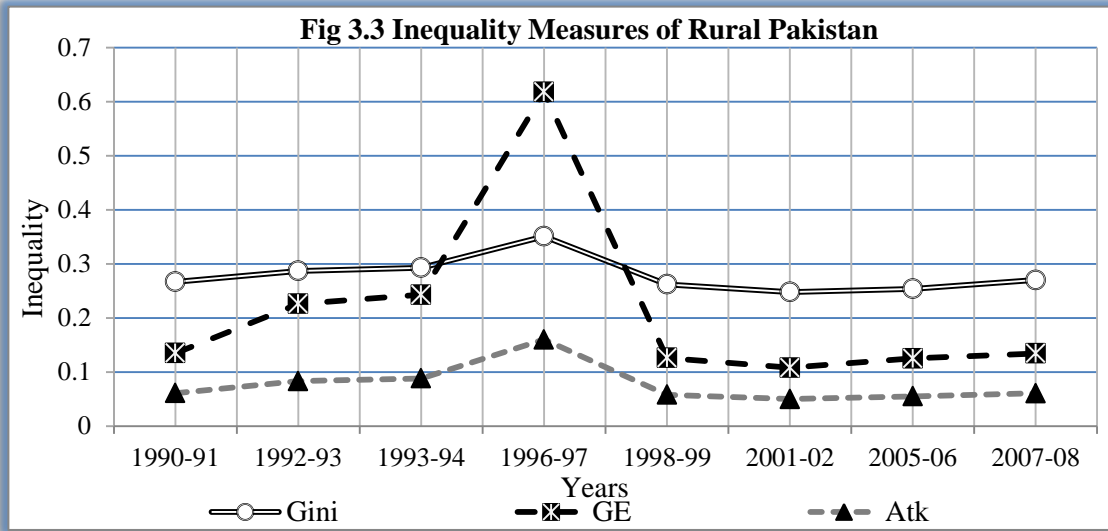
### 3.3 Comparing the Trends of Income Inequality and Polarisation of Overall, Urban and Rural Pakistan

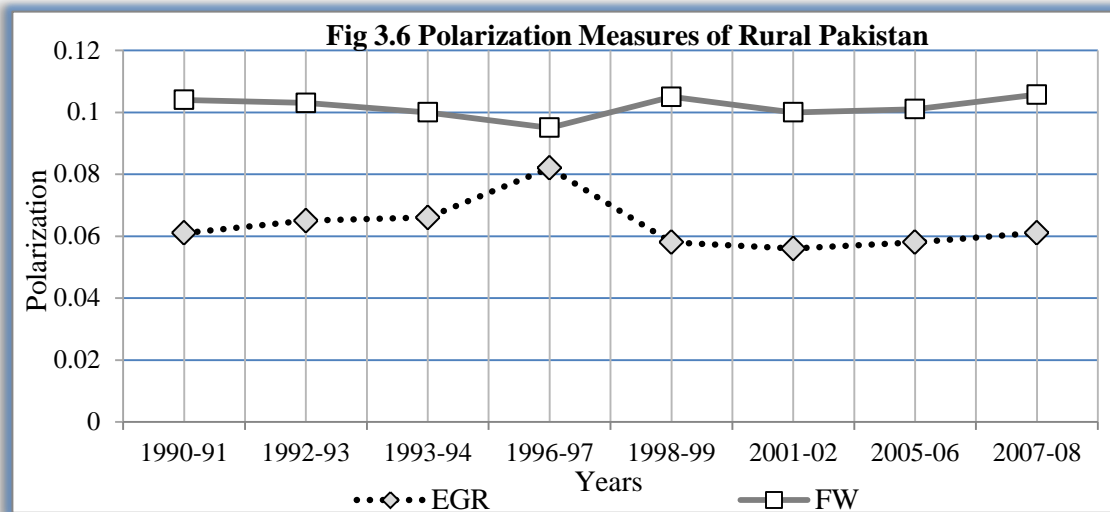
In this section we will compare the trends of income inequality and polarisation over the study period. The trends of income inequality and polarisation in overall, urban and rural Pakistan has been explained in detail in section 3.1 and 3.2 respectively. In this section we only focus on the relationship of income inequality and polarisation. There must not, however, be any doubt that

there is a wide difference between the concept of polarisation and income inequality. Income inequality looks at the distribution of income among all income units while, polarisation focuses on the strengthening or weakening of middle class. So the magnitudes of these measures are not comparable at all. The only significance is of their mutual trends. The estimates shows that the Gini coefficients, Generalised Esteban *et al.*, and the Atkinson measures have the approximately same trend whereas, Generalized entropy and Foster & Wolfson measures shows the different pattern. Three features are immediately apparent from the measure of income inequality and polarisation (Table A1 and Figure 3.1&3.4). First, the overall trend for both inequality and polarisation measures increases but at substantially different rates. Second, although there is an overall upward trend, this is not uniform, from 1998-99 to onward, inequality and polarisation has actually declined. Third, the distinction between the three inequality measures is greater than the two polarisation measures.









Urban Pakistan illustrate that all the measures have the consistent trend in the study period. The magnitude of the fluctuations is approximately similar as shown by all the measures of income inequality and polarisation. In case of urban Pakistan, the result of income inequality and polarisation shows that from 1990-91 to 1992-93 it increases followed by a decreasing trend from 1992-93 to 1996-97 except the Foster & Wolfson measure. The result shows that the estimates from 1996-97 to 1998-99 increased followed by a decreasing trend till the end of the study period. Whereas the Foster & Wolfson polarisation measure shows a different trend as compare to other measures. This is, thus, evidence that decreasing inequalities do not ensure decreasing polarisation. As from 2001-02 to 2005-06 all the inequality measures decreases, while the Foster & Wolfson measure of Polarisation increases. After that from 2005-06 to 2007-08 all the measures increases (Figure 3.2&3.5). Though inequalities have increased from 2001-02 to 2007-08 still the proportion of middle class has increased. The dispersion in incomes even in the middle-income groups can increase or there may be a wider gulf in the incomes of the lesser than before proportion of people at the poles.

The magnitude of the fluctuations is different and larger as shown by all the measures of income inequality and polarisation in rural Pakistan. The result of income inequality and polarisation shows that from 1990-91 to 1996-97 it increases and then from 1996-97 to 2001-02 it decreases. Again from 2001-02 to 2007-08 the estimates show an increasing trend. Three features are revealed by inequality and Polarisation measures. First, the overall trend for both inequality and polarisation measures increases but at substantially different rates. Second, although there is an overall upward trend, this is not uniform, from 1998-99 to onward inequality and polarisation has actually declined and from 2001-02 to 2007-08 it increases. Third, the distinction between the three inequality measures is greater than the two polarisation measures (Figure 3.3&3.6).

Since the rural population accounts for more than 65 per cent of total population (Pakistan, Government of, 2007; Economic Survey) it is worthwhile, to compare the measures of inequality and polarisation for rural Pakistan. Again, the Generalised Esteban *et al.*, exhibits a similar pattern to the Gini coefficients. This time, Foster & Wolfson index and Atkinson index have the lowest increase during the whole period and they show different patterns in 1996-97, 2005-06 and 2007-08 from other measures. The Generalized entropy measure rises much faster than the Gini coefficients, suggesting the different sensitivities of these two measures to changes in different

parts of the distribution. Because of its sensitivity to the median value, the Foster & Wolfson index may fluctuate more rapidly when the median value and its associated group change. But, the important point for us is that, overall, the polarisation and the inequality measures agree on the trend over the sample period.

## **4 EMPIRICAL ANALYSIS AT PROVINCIAL LEVEL**

### **4.1 Trends of Income Inequality in the Provinces**

The measures of Gini coefficients, generalized entropy and Atkinson index in all the provinces are estimated and presented in this section (Table A2). The study start with the most populated province Punjab. Punjab is the most populous province of Pakistan. In all surveyed years almost 57 percent of the sampled households belong to Punjab (Table B2). The Gini coefficients increases in Punjab with the sluggish pace from 1990-91 to 1998-99 almost 05 percentage points. After that from 1998-99 to 2001-02 it decreases 04 percentage points followed by a negligible increase of 0.17 percentage points in 2007-08. The estimates of Generalized entropy and Atkinson increased from 1990-91 to 1996-97 and then decreases till 2001-02 followed by a significant increasing trend till 2007-08 (Figure 3.7). The magnitude of the increase and decreases is more in generalized entropy as compare to Gini coefficients and Atkinson index.

As it is stated earlier, the year 1992-93 experienced heavy floods, which had adverse effects on agricultural output of the province and thus reduced the earnings of tenants, which led to low income inequality in rural Punjab. The stockiest, importers and contractors of urban Punjab, on the other hand, benefited from the shortage or commodities supplies. Secondly huge labour force of urban areas, originally belonging to rural Punjab, rushed back to their homes to help out families surrounded in heavy floods. This caused a slight shortage of labour in urban areas. As a result wages in urban areas went up. Few got unemployed as they rushed back to their villages and wages of remaining went up. All these forces put together resulted in high income-inequality in the urban areas of Punjab (Ahmed, 2000). In 1996-97 household income inequality got worse in Punjab. It may be noted that this pattern has been almost similar to the one observed for the overall Pakistan. However, in the year 1998-99 like Pakistan as a whole, the household income inequality in Punjab was also high during the study period. As noted earlier, the high income inequality during this period is attributable to the after effects of nuclear explosions by the Government of Pakistan in May 1998. The year 2001-02 and 2005-06 can be regarded as a period of recovery where like overall and urban Pakistan, the situation of household income inequalities improved in Punjab. Whereas, in rural Pakistan it deteriorated in 2005-06. It is also evident from the estimates that the condition of inequalities is similar in Punjab as compared to Pakistan as a whole and its rural segment. Moreover, the intensity of inequality is quite severe in Punjab; however the extent of this intensity is falling over time.

Sindh is the second populated province of Pakistan. In all surveyed years almost 23 percent of the sampled households belong to Sindh (Table B2). The Gini coefficients increases from 1990-91 to 1993-94 with the sluggish pace almost 02 percentage points. This trend is continuing till 1996-97. After that from 1996-97 to 1998-99 it increases with an active pace of 03 percentage points followed by a decreasing trend till 2005-06. After that, in 2007-08 the Gini coefficient again increases. The estimates of Generalized entropy and Atkinson increased from 1990-91 to 1998-99 and then decreases till 2005-06 followed by an increasing trend in 2007-08 (Figure 3.8). The magnitude of the fluctuations is not too much in the province of Sindh. The degree of

inequality is comparatively high in years from 1996-97 to 2007-08. However, 1996-97 is a year in which dispersion of inequality is relatively high. The period from 1998-99 to 2007-08 shows that the fall of inequalities indicates that most of the people incomes in Sindh are, probably, human labour based even though most of the incomes earned may not be human labour based. In other words most of the people contacted by survey officials were, probably, those whose incomes were human labour based. That is why when household based incomes were divided among members of the household, the inequality went down sharply. 1996-97 and 1998-99 witnessed the highest level of household income inequality in Sindh. Afterward the inequality declined till the end of study period (Ahmed, 2000). Furthermore contrary to the trends in Pakistan and Punjab, there are smooth trends in inequality measures in Sindh. Moreover, the intensity of inequality is quite even in Sindh; however the extent of this intensity is consistent over time.

Khabar Pakhtunkhaw is the third populous province of Pakistan. In each considered year almost 14 percent of the total sampled households were taken from this province (Table B2). All the measures of inequality in the Province of Khabar Pakhtunkhaw illustrate the cyclical trends. All the measures increase from 1990-91 to 1992-93 with the lively pace followed by the decreasing trend almost to the previous position in 1993-94. After that it increases from 1993-94 to 1996-97 with a brisk pace. This trend is continuing till 1998-99 as shown by Gini coefficients. After that it decreases with an active pace till 2001-02. Later on the inequality estimates increased from 2001-02 to 2007-08 (Figure 3.9). The magnitude of the fluctuations is high in the province of Khabar Pakhtunkhaw. It is noted that the 1996-97 is a year in which dispersion of inequality is relatively high. The estimates show the household income inequality in Khabar Pakhtunkhaw increased till 1998-99 as indicated by Gini coefficients whereas, it increased till 1996-97 as indicated by other inequality measures. Like entire country, the year 2001-02 appears to be the period of recovery from large inequalities found in 1996-97. The intensity or income inequality in Khabar Pakhtunkhaw has been slightly greater than in all areas over time. Furthermore the measures of income inequality in Khabar Pakhtunkhaw show more fluctuating behavior throughout the period of analysis as compared to the trends in Pakistan, Punjab and Sindh. There are cyclical trends in inequality measures in Khabar Pakhtunkhaw. Moreover, the intensity of inequality is quite jagged in Khabar Pakhtunkhaw; however the extent of this intensity is consistent over time. It is also evident from the estimates that the condition of inequalities is disparate in Khabar Pakhtunkhaw as compared to Pakistan as a whole and its urban-rural segment. Moreover, the intensity of inequality is quite severe in Khabar Pakhtunkhaw.

Baluchistan is the least populated province of Pakistan. In each considered year, the sampled households of this province constitute almost 5 percent of the total sampled households (Table B2). The Gini coefficients increased with the sluggish pace from 1990-91 to 1996-97 almost 05 percentage points. After that from 1996-97 to 2001-02 it decreases with an active pace of 07 percentage points followed by a little increase in the next study years. The estimates of Generalized entropy and Atkinson increased from 1990-91 to 1996-97 and then decrease till 2001-02 followed by a little increase in the next study years (Figure 3.10). The magnitude of the fluctuations is not too much in the province of Baluchistan. However, 1996-97 is a year in which dispersion of inequality is relatively high. Furthermore the measures of income inequality in Balochistan show little fluctuating behavior throughout the period of analysis as similar to the trends in overall Pakistan and Punjab, while it contrast with the trends of Sindh and Khabar Pakhtunkhaw. There are consistent trends in inequality measures in Balochistan. Moreover, the intensity of inequality is quite smooth in Balochistan; however the extent of this intensity is

fluctuating over time. The trends of various estimates of household income inequality for Baluchistan are remarkable similar. According to all the estimates, income inequality disparities in Baluchistan are maximum in 1996-97 and minimum in the year 2001-02.

Zakir and Idrees (2009) estimated per capita household income and expenditures of the four provinces and found that the inequality increases from 1992-93 to 1998-99 in Punjab and then decreases till 2001-02. Whereas, in Sindh the inequality increases from 1992-93 to 1996-97 and then decreases followed by an increasing trend in 1998-99. Afterward, it decreases in 2001-02. The estimates of Baluchistan are also identical. The similar results were found by the Gini coefficient of the present study (Table A2). Whereas, the estimates of KPK are differs from the subject study. Anwar (2003) also calculated Gini coefficient of the four provinces from 1998-99 to 2001-02 and found that the Gini coefficient decreases in all Provinces except Sindh. While, the current study shows that in this period the Gini coefficient of all the Provinces declines.

## 4.2 Trends of Polarisation in the Provinces

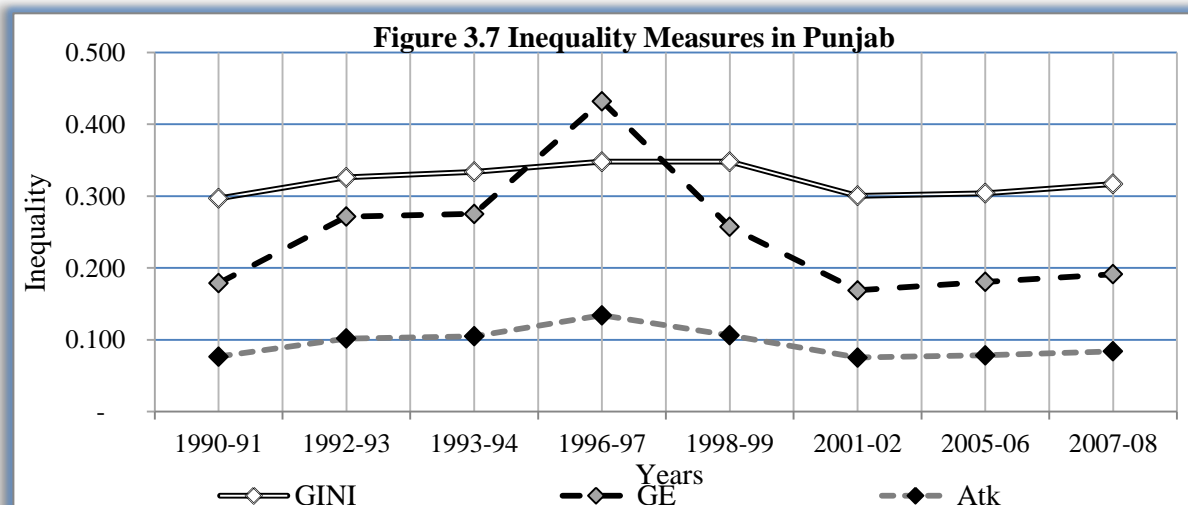
This section will cover the trends of polarisation in the four provinces of Pakistan. The estimation of polarisation in the provinces is calculated by two different methods i.e Generalised Esteban *et al.*, and Foster & Wolfson index (Table A2). The study proceeds with the explanation of most populated province Punjab, followed by Sindh, Khabar Pakhtunkhaw and Balochistan. The province of Punjab has generally dominated the trends in provinces. The Generalised Esteban *et al.*, estimates of polarisation shows that it increased from 1990-91 to 1998-99 with a dynamic pace. Whereas, the Foster & Wolfson estimates of polarisation differ in the same period with cyclical fluctuations. It increases till 1992-93 followed by a decreasing trend till 1996-97. In the next study year it again increases sharply. The period from 1998-99 to 2005-06 indicates that Generalised Esteban *et al.*, and Foster & Wolfson measures of polarisation decreases in Punjab while, it again increases in 2007-08 (Figure 3.11). The estimates of polarisation in Punjab are similar to the estimation of overall Pakistan (Figure 3.1). Arshad *et al.*, (2008) calculated the trends of 1992-93 to 2001-02 and found the similar trends as the current study demonstrates. The author estimated the trends of polarisation with respect to household income polarisation and finds that it increases from 1992-93 to 1998-99, which are similar to the trends of polarisation in Punjab as calculated by Generalised Esteban *et al.* Whereas, Arshad *et al.*, (2008) estimates of polarisation with respect to adult-equivalent incomes from 1992-93 to 1996-97 decreases, which is similar to the trends of polarisation in Punjab as calculated by Foster & Wolfson measures.

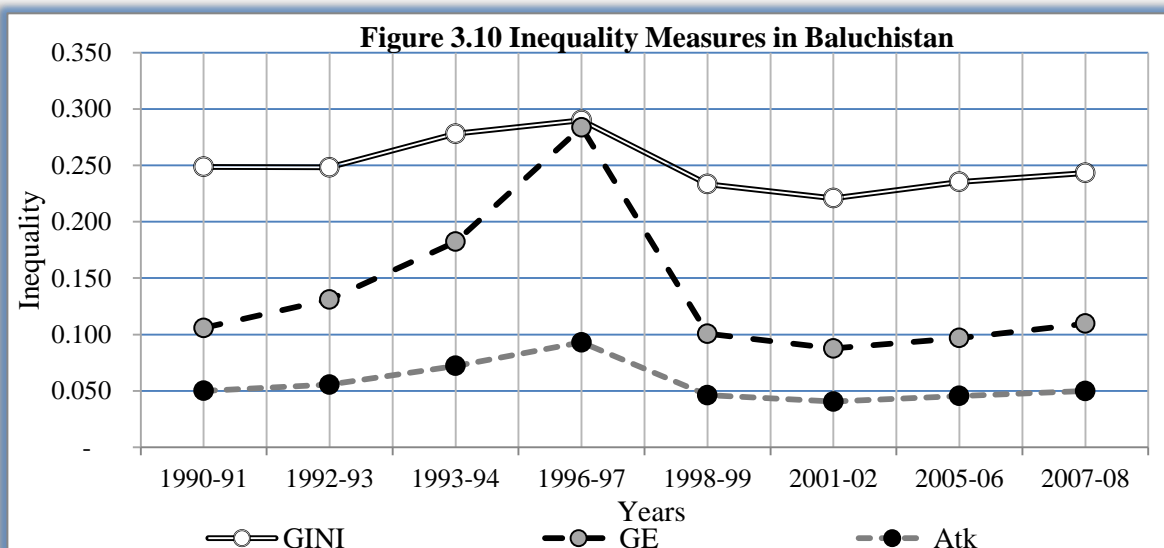
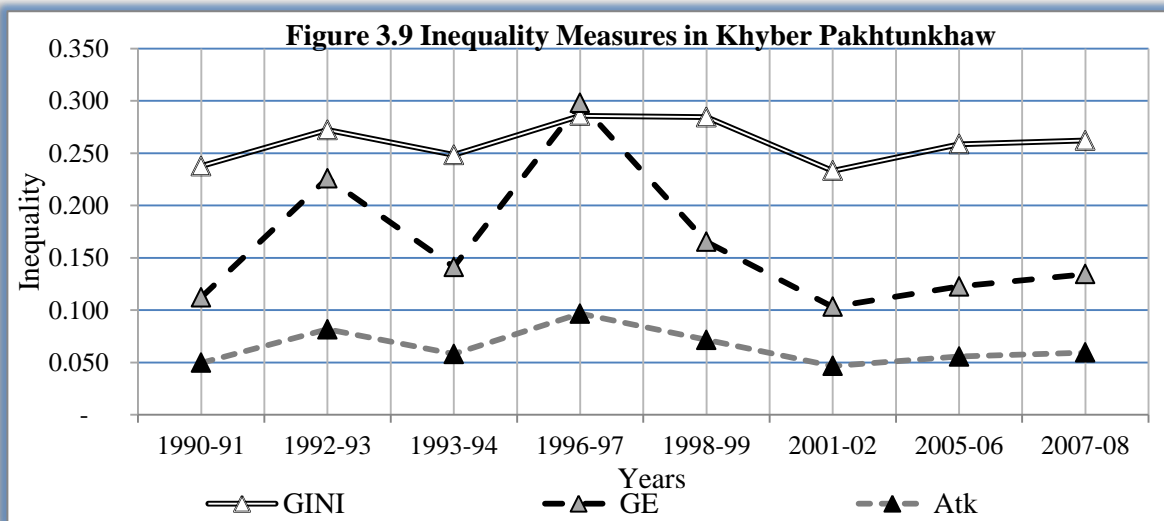
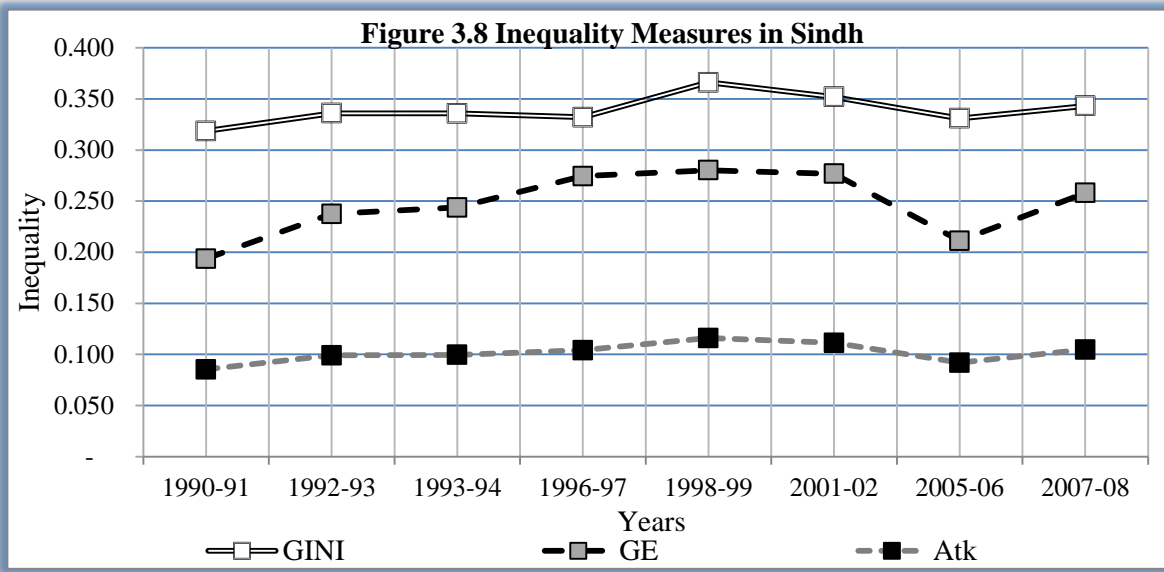
The next province is Sindh. The estimates of income polarisation in Sindh have also the similar trends as for overall Pakistan (Figure 3.1). The polarisation has declined in Sindh during 1992-93 till 1996-97 but it increased during 1996-97 to 1998-99. This increasing trend has reversed in late nineties and till the start of present century i.e. 1998-99 till 2001-02. After that Generalised Esteban *et al.*, estimates further decreases in 2005-06 while, Foster & Wolfson increases. In the last study years these estimates show opposite trends (Figure 3.12). Arshad *et al.*, (2008) estimated the trends of polarisation with respect to household income polarisation and finds that polarisation decreases from 1992-93 to 1996-97 and then increases till 2001-02. These trends are alike to the trends of polarisation in Sindh as calculated by Generalised Esteban *et al.* Whereas, the estimates of polarisation with respect to adult-equivalent incomes from 1992-93 to 1996-97 decreases followed by an increasing trend till 1998-99, which is similar to the trends of polarisation in Sindh as calculated by Foster & Wolfson measures. The difference in the

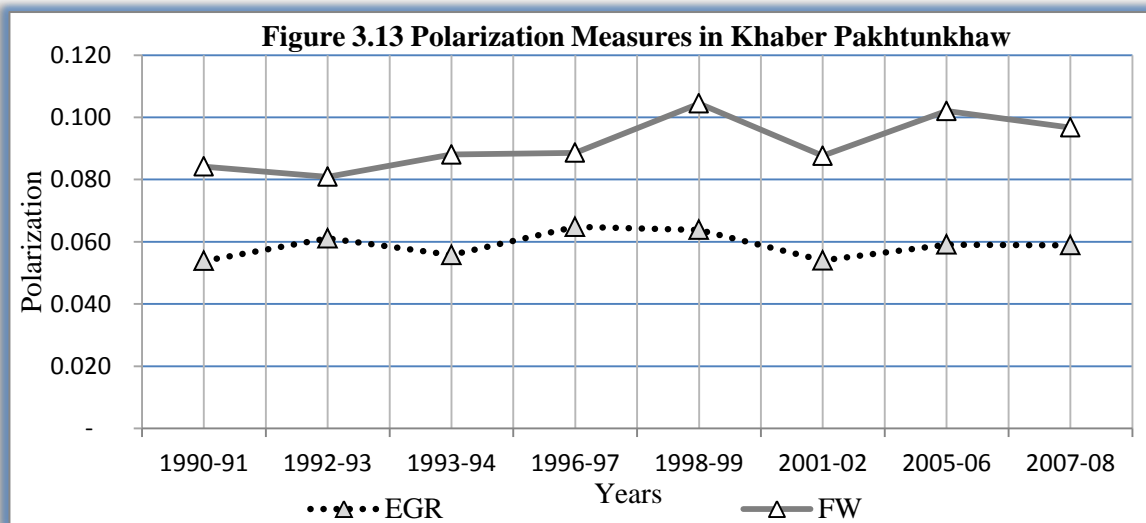
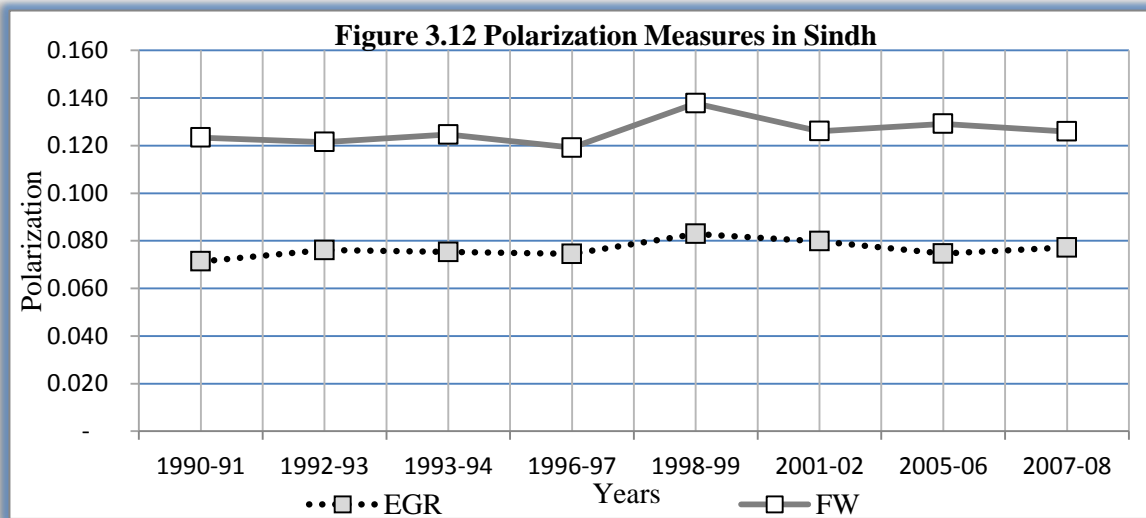
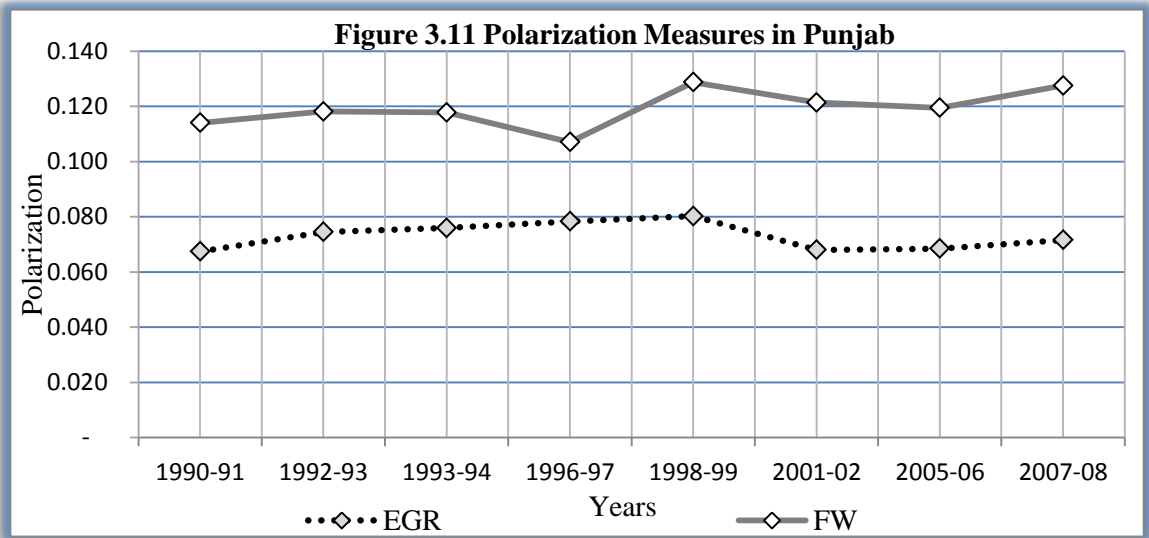
magnitude of polarisation is little. The Sindh has observed lower polarisation during 1990-91 to 1996-97 and from 1998-99 to 2001-02 but in between these years polarisation has increased, i.e., during 1996-97 till 1998-99.

The trends of Polarisation are cyclical in Khabar Pakhtunkhaw. During 1990-91 to 1993-94 the Foster & Wolfson and Generalised Esteban *et al.*, measures show an opposite trends. From 1993-94 to 1996-97 the trends are similar as it is increasing. This increasing trend continues as estimated by Foster & Wolfson whereas, Generalised Esteban *et al.*, show an opposite trend in the same study year. This rise in trends could not keep its pace and polarisation declines in Khabar Pakhtunkhaw. From 1998-99 to 2001-02 the polarisation decreases as shown by the results of both polarisation measures, followed by an increasing trend till 2005-06. The Wolfson measure decreases in 2007-08 (Figure 3.13). The estimates of Arshad *et al.*, (2008) with respect to household income polarisation and finds that polarisation decreases from 1992-93 to 1996-97 and then increases in 1998-99 followed by a decreasing trend again in 2001-02. These trends are identical to the trends of polarisation in Khabar Pakhtunkhaw as calculated by Generalised Esteban *et al.* The difference in the magnitude of polarisation is large as compare to Sindh. The Khabar Pakhtunkhaw has observed lower polarisation during 1990-91 till 1996-97 and after that the magnitudes of polarisation increases till the end of study period.

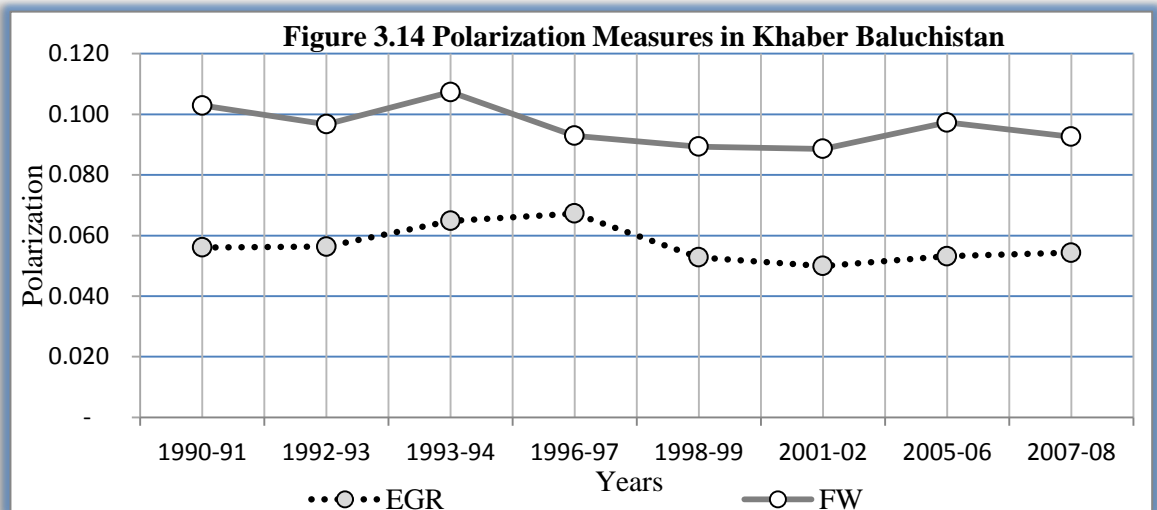
Lastly, the trends of polarisation in Balochistan are diverse then other province. During 1990-91 to 1993-94 the Foster & Wolfson and Generalised Esteban *et al.*, measures show an opposite trends. From 1993-94 to 1996-97 the trends are similar as it is increasing. This increasing trend continues as estimated by Generalised Esteban *et al.*, whereas Foster & Wolfson shows an opposite trend in the same study year. This rise in polarisation trends could not keep its pace and polarisation declines in Balochistan. From 1998-99 to 2001-02 the polarisation decreases as shown by the results of both polarisation measures, followed by an increasing trend till 2007-08 (Figure 3.14). The estimates of Arshad *et al.*, (2008) are cyclical alike the present study from 1992-93 to 2001-02. These trends show the role of government's efforts in stabilizing the middle class of the country. Only the government during 1996-97 to 1998-99 remains somewhat unsuccessful in complete trickle-down effect and the income distributions are distorted during these years. However, the commencement of developmental projects throughout the province of Baluchistan during the start of present century has resulted in the strengthening of middle class. But this affects was a temporary as it is noted that again polarisation increases.











#### 4.3 Comparison in the Trends of Income Inequality and Polarisation of all the Provinces of Pakistan

In this section the study compared the trends of income inequality and polarisation of all the provinces over the study period. The trends of income inequality and polarisation in all the Provinces have been explained in detail in section 3.4 and 3.5 respectively. The main focus of this section is a comparison of income inequality and polarisation. Income inequality looks at the distribution of income among all income units, while polarisation focuses on the poles of the society. So the magnitudes of these measures are not comparable at all. The only significance is of their mutual trends.

The estimates of income inequalities and polarisations of Punjab have been presented and explained in Figure 3.7 and 3.11 respectively. The Gini coefficients, Generalized entropy, Atkinson and Generalised Esteban *et al.*, measures show approximately the same trend whereas, Foster & Wolfson measure differs from other measures in the period from 1993-94 to 1998-99. Three features are immediately apparent from Figures 3.7 and 3.11. First, the overall trend for both inequality and polarisation measures increases but at substantially different rates till 1996-97 except the Foster & Wolfson measure. Second, although there is an overall upward trend, this is not uniform, from 1998-99 to onward inequality and polarisation has actually declined. Third, the distinction between the three inequality measures is greater than the two polarisation measures.

The trends of income inequality and polarisation in the province of Sindh are illustrated in Figures 3.8 and 3.12. The Gini coefficients, Generalized entropy, Atkinson and Generalised Esteban *et al.*, measures have show the approximately same trend whereas, Foster & Wolfson measure differs from other measures in the period from 1993-94 to 1998-99 and from 2005-06 to 2007-08. There are two phases first, the trend for both inequality and polarisation measures increases but at substantially different rates till 1998-99 except the Foster & Wolfson measure. Second, from 1998-99 to onward inequality and polarisation has decreasing trends. Lastly, these measures increases in 2007-08 except Wolfson measure.

The trends of income inequality and polarisation in the province of Khaber Pakhtunkhaw are presented and explained by the help of Table A2 and Figures 3.9 and 3.13. Gini coefficients,

Foster & Wolfson and Generalised Esteban *et al.*, measures have the approximately same trend whereas, Generalized entropy and Atkinson shows the similar trends. All the measure shows the cyclical trends, however their magnitude and pace is different. Due to cyclical trends there are many phases however, if we look at the trends then study witness the results that as the inequality estimates increases polarisation also increases.

Figure 3.10 and 3.14 illustrate the trends of inequality and polarisation in the province of Baluchistan. Gini coefficients, Atkinson and Generalised Esteban *et al.*, measures have the approximately same trend whereas, Generalized entropy and Foster & Wolfson measure illustrate the different trends. Generalized entropy is a measure which shows the greater magnitude of the fluctuations. It is illustrated that there are three phases. In first phase Inequality and polarisation measure as Gini coefficients, Atkinson and Generalised Esteban *et al.*, increases till 1996-97 indicating that as the inequality increases the middle class become weak. From 1996-97 to 1998-99 the inequality decreases by strengthen the middle class. In the last study years inequality and polarisation increases again.

## **5 RELATIONSHIP OF INCOME DISTRIBUTION WITH ECONOMIC GROWTH, INFLATION AND RADICALISATION/ EXTREMISM**

In this section the study tries to find out the general question: does economic growth trickle-down to the poor and impact on income distribution. Some scholars claim that economic growth does not eliminate income inequality and may exacerbate the problems of the poor while, on other hand the growth economists have long cherished the notion that the growth trickles-down and lifts everyone in the society. Economic growth may reduce inequality but the impact is various across countries, meaning similar growth rates do not necessarily mean that the impact will also be likewise related in every setting.

Inequality is often regarded as a necessary evil that has to be tolerated to allow growth. The inequality is necessary for the accumulation of wealth and contains the seeds of eventual increase in everyone's income. Trickle-down economic theories evident that acceptance of inequality allows the rich to earn a greater rate of return on their assets. Moreover, inequality slows growth because it causes more conflict over distributional issues (Clark *et al.*, 1995). For example, Dreze and Sen (1990) claim that economic growth does not generate benefits in terms of numerous non-pecuniary measures of well-being. Calls for increased government spending (Squires, 1993) or other redistributions of wealth (Todaro 1997) are the logical extension of the argument that growth does not ensure the elimination of inequality and poverty. In the less than idealized state of affairs, there is not even a "trickle" downward. Simply put, general economic progress does not "improve the levels of the very poor" In fact, some development economists contend that the "growth processes" typically "trickle-up" to the middle classes and "especially the very rich" (Todaro, 1997). Economic growth may increase inequality as well as reduce social development. Unless government comes up with a strong political will to solve these anomalies, the invisible hand of the market cannot take the benefits of economic growth to all the people (Sarkar, 2009).

In case of Pakistan, the empirical evidence shows that the economic growth fails to trickle-down the inequality. Moreover, the results indicate that there is no causal relationship between economic growth and poverty reduction in any direction. The inequality increases from 1990-91 to 1996-97 but 1996-97 is a year in which growth rate is relatively high. After that inequality decreases till 2001-02 the years which indicates the lower level of growth rate whereas, after that

inequality increases in the high growth rate years (Table A3). Moreover, the high inflation rate also widening the gap between rich and poor. In the present study, the inequality and polarization is higher in the years in which inflation rate is in double figures (Table A3).

The relationship of income distribution with radicalisation and extremism can be analysed by a number of the study on the subject issue. International research shows that it is not inequality and poverty that leads to violent conflict, but economic decline and relative deprivation (widening disparities) coupled with poor governance (Elbadawi, 1999; Addison and Murshed, 2000; Colletta, 2002).

Poverty, inequality and economic deprivations contribute to radicalisation in some areas but are not drivers of the phenomenon. There is also increasing religiosity in society and religious extremism is the common factor in all the visible trends of radicalisation in Pakistan (Zaidi, 2010). This fact can be explained that these issues are increasing in our society as the income inequality is widening (Table A1). The enabling environment is characterised by the local economy lacking employment opportunities, the presence of members of militant groups in a community, proximity to a conflict zone, and/or persistent exposure to extremist literature and media. Most of these factors are often present in areas where militancy is strongest (Azam and Aftab, 2009).

The economic inequalities and deprivation has created frustration and insecurity among the masses, leading to an increasing criminalisation of society in which there are available targets for exploitation by the extremist elements in and outside the governments. Along with the deteriorating economic condition the Government using the policies in order to prolong and strengthen their rule, further strengthening the fundamentalists and extremists in the society.

## **6 CONCLUSION**

The main purpose of this study is to calculate the trends of income inequalities and polarisation in Pakistan as a whole and its urban-rural segments as well as in its four provinces. The calculations of the study show that Pakistan is fairly all right in terms of its distribution of income. The highest level of inequity is seen in Sindh and lowest level of inequality is seen in Baluchistan. Most interesting results/conclusion is observed when calculation is presented in the graphs for income inequalities and polarisation. The fluctuation ratios in rural Pakistan are more than in urban Pakistan indicating a very important phenomenon in rural versus urban Pakistan i.e. the rural incomes are more human labour based than urban income. In other words high-income households in rural areas are those which have probably more people living in those households and low income households are those which have less people living in them. That is why when is re-divided income among persons or on per capita basis the inequality fell as high incomes of larger families are divided among larger number of people and small incomes of smaller households are divided among smaller number of people. The same phenomenon is observed in all provinces of Pakistan but more so in Sindh and Khabar Pakhtunkhaw. The overall trends in inequalities and polarisation in Pakistan and its provinces are varying i.e. for some years then it has declined and for few it has increased. More specifically from 1996-97 polarisation has increased sharply. The trends have reversed during 2001-02 and again polarisation declines during this period. In general 1998-99 is the period of maximum polarisation in all segments of Pakistan. In Brief, although the two polarisation measures are theoretically different from standard inequality measures, empirically the new measures of

polarisation do not give us very different results from the standard measures of inequality. Simply looking at the trends of these measures will not help us capture the distinctive concerns about polarisation versus increasing inequality in Pakistan.

Moreover, the study also conclude that there is no trickle-down effect of the growth rate and the inequality moved upward or downward during the high growth rate years as it stirred in 1996-97 up and 2001-02 down. High inflation rate play an important role to enlarge the gap between rich and poor. Inequality increase briskly as the inflation rate goes in two digits indicating that the inequality is growing in the era of the present Government. Higher inequality and polarisation also leads the radicalization and the extremism in the society. This improved from the start of the 21<sup>st</sup> century and ongoing as the breach is expanding among rich and poor.

## APPENDIX “A”

**Table A1 Trends of Income Inequality and Polarisation of Overall, Urban and Rural Pakistan**

Years	Description	Inequality			Polarization	
		Gini	GE	Atk	EGR	FW
1990-91	Overall	0.298	0.177	0.077	0.067	0.112
	Urban	0.324	0.210	0.090	0.073	0.122
	Rural	0.267	0.135	0.061	0.061	0.104
1992-93	Overall	0.321	0.254	0.098	0.072	0.114
	Urban	0.360	0.272	0.112	0.081	0.135
	Rural	0.287	0.226	0.083	0.065	0.103
1993-94	Overall	0.325	0.251	0.098	0.073	0.115
	Urban	0.340	0.224	0.097	0.078	0.137
	Rural	0.293	0.243	0.088	0.066	0.100
1996-97	Overall	0.339	0.377	0.123	0.078	0.108
	Urban	0.337	0.271	0.104	0.079	0.127
	Rural	0.351	0.618	0.160	0.082	0.095
1998-99	Overall	0.343	0.248	0.103	0.078	0.126
	Urban	0.392	0.306	0.129	0.091	0.156
	Rural	0.262	0.126	0.058	0.058	0.105
2001-02	Overall	0.304	0.189	0.081	0.070	0.116
	Urban	0.352	0.252	0.106	0.081	0.131
	Rural	0.248	0.108	0.050	0.056	0.100
2005-06	Overall	0.306	0.182	0.079	0.069	0.120
	Urban	0.333	0.202	0.090	0.075	0.138
	Rural	0.254	0.125	0.055	0.058	0.101
2007-08	Overall	0.316	0.200	0.086	0.072	0.123
	Urban	0.348	0.242	0.103	0.079	0.140
	Rural	0.270	0.134	0.061	0.061	0.106

Source: Calculated by author from various issues of HIES/ PIHS/ PSLM.

**Table A2 Inequality and Polarization Measures of all the Provinces of Pakistan**

Provinces	Ineq. and Pol Measures	Years							
		1990-91	1992-93	1993-94	1996-97	1998-99	2001-02	2005-06	2007-08
Punjab	Gini	0.297	0.326	0.334	0.348	0.348	0.300	0.304	0.317
	GE	0.179	0.271	0.275	0.432	0.257	0.169	0.181	0.191
	Atk	0.077	0.102	0.105	0.134	0.106	0.075	0.078	0.084
	EGR	0.067	0.075	0.076	0.078	0.080	0.068	0.068	0.072
	FW	0.114	0.118	0.118	0.107	0.129	0.121	0.119	0.128
Sindh	Gini	0.319	0.336	0.336	0.332	0.366	0.352	0.331	0.343
	GE	0.194	0.237	0.244	0.274	0.280	0.277	0.211	0.258
	Atk	0.085	0.099	0.100	0.104	0.116	0.111	0.092	0.105
	EGR	0.071	0.076	0.075	0.075	0.083	0.080	0.075	0.077
	FW	0.123	0.121	0.125	0.119	0.138	0.126	0.129	0.126
KPK	Gini	0.238	0.272	0.248	0.286	0.284	0.233	0.259	0.262
	GE	0.112	0.226	0.141	0.298	0.165	0.103	0.123	0.134
	Atk	0.050	0.082	0.058	0.097	0.072	0.047	0.056	0.059
	EGR	0.054	0.061	0.056	0.065	0.064	0.054	0.059	0.059
	FW	0.084	0.081	0.088	0.089	0.104	0.088	0.102	0.097
Baluchistan	Gini	0.249	0.248	0.278	0.290	0.233	0.221	0.235	0.243
	GE	0.106	0.131	0.182	0.284	0.101	0.088	0.097	0.110
	Atk	0.050	0.056	0.072	0.093	0.046	0.040	0.045	0.050
	EGR	0.056	0.056	0.065	0.067	0.053	0.050	0.053	0.054
	FW	0.103	0.097	0.107	0.093	0.089	0.089	0.097	0.093

Source: Calculated by author from various issues of HIES/ PIHS/ PSLM

**Table A3 Inequality, Growth and Inflation Rate**

Survey Years	Overall Inequality <sup>1</sup>			Growth Rate <sup>2</sup>	Inflation Rate <sup>3</sup>
	Gini	GE	Atk		
1990-91	0.298	0.177	0.077	4.459	9.051
1992-93	0.321	0.254	0.098	7.835	4.851
1993-94	0.325	0.251	0.098	1.258	9.825
1996-97	0.339	0.377	0.123	4.847	10.789
1998-99	0.343	0.248	0.103	1.014	11.803
2001-02	0.304	0.189	0.081	1.865	4.41
2005-06	0.306	0.182	0.079	7.672	9.276
2007-08	0.316	0.200	0.086	5.638	7.771

Source: <sup>1</sup>Calculated by author from various issues of HIES/ PIHS/ PSLM

<sup>2&3</sup> IMF

## APPENDIX “B”

**Table B1** Percentage of Distribution of Household in Urban and Rural Areas by Survey Years

Survey Years	Percentage of HH Sample Size		
	Urban	Rural	Total
1990-91	31.9	68.1	100
1992-93	28.4	71.6	100
1993-94	30.4	69.6	100
1996-97	31.2	68.8	100
1998-99	29.5	70.5	100
2001-02	29.2	70.8	100
2005-06	33.6	66.4	100
2007-08	32.8	67.2	100

Source: - Calculated from HIES, PIHS, PSLM various issues.

**Table B2** Percentage of Distribution of Household by Survey Years Province Wise

Survey Years	Percentage of HH Sample Size				
	Punjab	Sindh	KPK	Baluchistan	Total
1990-91	61	23.5	12.6	2.9	100
1992-93	59.1	22.6	14.2	4.1	100
1993-94	58.4	23.8	13.3	4.5	100
1996-97	59.4	20.7	16.6	3.3	100
1998-99	56.7	23.5	14.1	5.7	100
2001-02	56.3	25.3	14	4.4	100
2005-06	55.8	24.8	14.5	4.9	100
2007-08	57.9	23.5	13.8	4.8	100

Source: - Calculated from HIES, PIHS, PSLM various issues.

**Table B3 Distribution of Household by Survey Years**

<b>Survey Years</b>	<b>HH sample size</b>
HIES 1990-91	6516
HIES 1992-93	14593
HIES 1993-94	14668
HIES 1996-97	14261
PIHS 1998-99	14820
PIHS 2001-02	14831
SLM 2005-06	15453
PSLPM 2007-08	15512
<b>Total households</b>	<b>110654</b>

Source: - HIES, PIHS, PSLM various issues.

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