

## ESTIMATION OF DISTRIBUTION OF INCOME AMONG VARIOUS OCCUPATIONS/PROFESSIONS IN PAKISTAN

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**Abstract.** Despite the existence of a large number of studies related to income distribution, very little attempt has been made to study the income inequalities between and within various occupations/professions in Pakistani Utilizing HIES 1992-93 data and making use of SPSS, an attempt is made to fill this gap by calculating Gini coefficients for different occupations/professions in Pakistan. Then income inequalities are compared between these professions/occupations broken down to province level. This way comparison is made not only between various occupations/professions but also within each profession/occupation at Pakistan as well as at provincial level. Within these various occupations/professions, highest level of inequality is observed among skilled workers and lowest level of inequality is found among professionals. Similarly, within various professions/occupations, highest level of inequality is observed in NWFP while lowest level of inequality is found in Balochistan Province.

### I. INTRODUCTION

There is a long list of studies related to distribution of income in Pakistan. Most of these have been confined to calculation of various measures of inequalities. These studies include Khadija (1964), Bergan (1967), Mahmood (1984), Ercelawn (1988), Ahmad and Ludlow (1989), etc. Apart from these there are other studies including Jeetun (1978), Chaudhry (1982), Cheema and Malik (1984), Kruijk and Leeuwen (1985), Kuijk (1986), Kemal (1994), Jaffery and Khattak (1995), Chaudhary (1995), etc. Jeetun (1978) in his paper concentrated on consequences of economic growth on level of

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inequality whereas Chaudhary (1982) tried to find out the impacts of Green Revolution on income inequalities. Cheema and Malik (1984) tried to find out the effects of different income policies on the consumption and level of employment in Pakistan. Kemal (1994) examined the impacts of adjustment period of Pakistan since the late 1970s on efficiency and equity. Jaffery and Khattak (1995), while utilizing HIES 1990/91, measured and analyzed inequality and poverty in Pakistan together with their historical trends. They also analyzed the phenomenon of income inequality and poverty and their relation to the distribution of assets and employment. Chaudhary (1995) computed and analyzed income inequality in Pakistan as well as in its provinces broken down to rural urban level. He not only studied the extent of inequality in Pakistan but also its change over time measured on the basis of per capita income distribution involving households.

In spite of the existence of such a large list of studies related to distribution of income in Pakistan, very little attempt has been made to study the income inequalities between and within various occupations/professions in Pakistan. Exceptions to this are studies by Kruijk and Leeuwen (1985) and Kruijk (1986). Kruijk and Leeuwen (1985) examined the incidence of poverty and inequality in Pakistan in 1975 and also decomposed the measure of inequality in various components. This was done to identify the location, the magnitude and the changes of various inequalities etc. They decomposed Theil's measure of inequality ( $T$ ) into two parts: The explained part (or the between component) and the unexplained part (or the within component). Accordingly they decomposed overall  $T$  into inequalities within and between urban and rural areas. This way  $T$  was decomposed into inequality which is attributable to inequality between urban and rural areas and (i) inequality within urban area and (ii) inequality within rural area. Then urban area and rural area inequalities are further decomposed into earners and numbers of earners per household. In the third step, inequality among earners is decomposed into inequality between occupational groups and inequality within occupational groups. This exercise is done for the two time periods that are for 1969/70 and 1979.

In this paper we have adapted different approach than that of Kruijk and Leeuwen (1985) and Kruijk (1986). Instead of decomposing Theil into various components and then finding inequality between and within occupations, what we have done is to calculate Gini coefficients for each occupational group. Once we were able to calculate Gini coefficients for each occupation/profession then there was no problem to compare the level of inequality among various professions or occupations.

## II. DATABASE

The main feature of this study is that it is based on individual household data of the Household Integrated Economic Survey (HIES) 1992-93 conducted by the Federal Bureau of Statistics. At the time of this study Household Integrated Economic Survey 1992-93 was the latest data available on tapes. The universe of this survey consists of all urban and rural areas of the four provinces of Pakistan defined as such by 1981 Population Census excluding FATA, military restricted areas, districts of Kohistan, Chitral, Malakand (Protected area) and PATA of NWFP. The population of excluded areas constitutes about 4% of the total population.

### SAMPLE COVERED

Due to various reasons, out of 14,976 households, 382 households could not be numerated for reasons such as non-contact, locked house etc., thus, the results of this survey are based on 14,594 households.

### PACKAGE USED

The package used to calculate measures of inequality is Statistical Package for Social Sciences (SPSS).

## III. FRAME OF REFERENCE

The income receiving/consuming unit used in this paper is household. The reason is that household is the most appropriate and most commonly used frame of reference for a meaningful analysis of income distribution. That is why it is almost exclusively used as a basic unit of measurement in surveys etc. Moreover, in any given society/sector there is a normal household size and most of the households (in terms of their size) fall around this 'normal' household. For example, in a country like ours the normal household size is six and most of the households (size) fall within close range of this figure. Apart from this it must be remembered that in almost all societies in general, and Muslim in particular, inequality among households is more important than inequality among individual persons within or between households. The reason for this is that in a Muslim family the rights and duties of different members of family are based on Islamic ethical principles. For example, when father gets old and can't earn his living, the children will look after him in the best possible manner and he gets his due/proportionate share of food, clothing, etc. even though he is not earning any more. His children will look after him in the same manner as he looked after them when they were young. Similarly, other non-earning members of the family get their share of food/clothing etc. as determined by *Shariah* (or Islamic law) and according to

their needs and requirements. Their needs are met in the light of total income of the family and not in accordance with their share in the family income. In fact, even the servants are looked after well in a Muslim family. They are considered as part of family. In a non-Muslim society, it is quite common to find earners eat/wear more/better than the non-earners within the same family. Whereas in a Muslim society all members share the resources/income available to the family.

#### **IV. LEVEL OF INEQUALITY IN VARIOUS OCCUPATIONS/PROFESSIONS**

Before discussing levels of inequality among various professions/occupations, in Pakistan, it is probably more appropriate to define various occupations or professions in the first place. For this study, we have defined occupations in accordance with the Pakistan Standard Classification of Occupations (1994) as published by the Bureau of Statistics. The Pakistan Standard Classification of Occupations (1994) divides various occupations or professions into major, sub-major and minor groups. Following Pakistan Standard Classification we have divided our occupations into six majors compared with nine majors of Pakistan Standard Classification. In our case, we have lumped together some occupations for our convenience and also because it made economic sense. In the slightly modified classification (in our table), the last three majors could be interpreted as White Collar/Semi White Collar Workers, Skilled Workers and Unskilled Workers. This type of classification is very common and easily understood in the Western European countries. The largest number of workers fall in these three broad categories: White Collar, Skilled and Unskilled workers. That is why we have classified our occupations into following six majors, as may be seen from Tables 1 and 2, and also from the table below:

- (i) *Legislators, Senior Officials and Managers* include
  - Legislators and Senior Officials, Corporate Managers and General Managers
- (ii) *Professionals* include
  - Physical and Mathematical
  - Physical, Mathematical and Engineering Science Professionals
  - Life Science and Health Professionals
  - Teaching Professionals
  - Other Professionals

- (iii) *Technicians and Associate Professionals* include
- Physical and Engineering Science Professionals
  - Life Science and Health Associate Professionals
  - Teaching Associate Professionals
  - Other Associate Professionals
- (iv) *Clerks, Service Workers and Shop and Market Sales Workers* include
- Office Clerks
  - Customers Services Clerk
  - Personal and Protective Services Workers
  - Models, Sales Persons and Demonstrators
- (v) *Skilled Agricultural, Fishing, Craft and Related Trade Workers, Plant and Machine Operators and Assemblers* include
- Market-Oriented Skilled Agricultural and Fishing Workers
  - Subsistence Agricultural and Fishing Workers
  - Extraction and Building Trade Workers
  - Precision, Handicrafts, Painting and Related Trades Workers
  - Other Craft and Related Trades Workers
  - Stationery-Plant Related Operators
  - Machine Operators and Assemblers
  - Drivers and Mobile Plant Operators
- (vi) *Unskilled Labour, Elementary Occupations* include
- Sales and Services Elementary Occupations
  - Agricultural, Fishing and Related Labourers
  - Labourers in Mixing, Construction, Manufacturing and Transport

While looking at the list of Gini coefficients against various occupations for all Pakistan in sub-table 1(a) [Table 1], we can see that the highest level of inequality (*i.e.* Gini coefficient) is recorded by skilled workers, *i.e.* by skilled agricultural, fisheries, craft and related trades workers plus plant and machine operators and assemblers. Gini coefficient for these skilled workers

is 0.409. This figure is a little high from Pakistani standard. In fact it is slightly higher than the national Gini coefficient calculated by the author<sup>1</sup> elsewhere. One of the reasons for this high figure is that in the category of skilled workers a diverse bunch of workers are included varying from market oriented gardeners to subsistence agricultural workers, mine to precision metal workers, plant operators to ship deck workers. Even though they are all skilled workers but their incomes or earnings are quite diverse. For example, heavy machine operators earn lot more than skilled but subsistence agriculture or fishery workers. Similarly, skilled extraction workers earn much more than the just drivers. That is why when such diverse workers are brought together under the umbrella of skilled workers this much high level of Gini coefficient (therefore, inequality) is no surprise.

The second highest value of Gini coefficient is shown by clerks, service workers and shop and market sales workers (Gini = 0.357). Within this group of workers, the inequality is quite high from Pakistan standard. One of the reasons, it seems, is the diversity of various elements in this category. Apparently this group seems very homogenous but it is not so if we observe it carefully. For example, office clerks and customer service clerks are both clerks but there could be huge disparity between their earning levels, *i.e.* the salary of a clerk working in some state office is not the same as that of a clerk working in some commercial bank, especially foreign bank. Similarly, earnings of a clerk working in some government school are much more modest compared with the earnings of a clerk working in some court of law even though their salaries are the same. This group, however, is less diverse than the skilled workers but still diverse enough to produce Gini coefficient of 0.357.

The third highest Gini coefficient is shown by the first occupation in our table that is the legislators, senior officials and managers. In this group again the high figure of Gini coefficient reflects the different kinds of people lumped together in one occupation or professional group. In this category, we have all sorts of people including legislators (mostly landlords and industrialists), senior government officials, directors and chief executives of

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<sup>1</sup>Ahmad, Mehboob (2001), *Distribution of Income in Muslim Countries vis-à-vis non-Muslim Countries*. Unpublished Thesis, Bahauddin Zakariya University, Multan.

See also in Ahmad, Mehboob (2001), "Estimation of distribution of income in Pakistan using MICRO data". Paper presented in 16th AGM of the Pakistan Society of Development Economists, January 22-24, 2001, PIDE, Islamabad. Reprinted in *The Pakistan Development Review*, Volume 39, No. 4 (Winter).

government/semi government and private organizations. All the people who fall in this category/group are high earning people. Most of the legislators have landed or industrial background. Those who are not very rich become rich once they enter the parliament through corruption and other unfair means. But still there are some parliamentarians who are not rich but also not corrupt. That is why diversity in income level is observed through modestly high value of Gini coefficient. There is, however, diversity of incomes among different senior officials. Some of the senior officials with specialized skill get much more higher salary than the ordinary senior government officials. Corruption is one way through which many senior officials try to equalize their incomes with their highly skilled counterparts. But still there is no dearth of honest senior officials whose incomes are much lower than their skilled and corrupt counterparts. That is why we see a little bit high Gini coefficient for this apparently homogenous (income wise) group.

The professionals group shows the lowest level of inequality (Gini = 0.132) in Pakistan. This group includes physical, mathematical and physical, mathematical and engineering science professionals, life science and health professionals, teaching professionals, etc. Even though this group includes whole set of professionals but still they are very uniform and homogenous in terms of levels of their incomes. The homogeneity in terms of incomes among such diverse professionals is due to the fact that almost all the professionals included here are government employees and government pays in terms of uniform grading system to all of its professionals. There are some professionals (like doctors) whose incomes (apart from salary) are much higher than common professionals (like teachers). But such professionals are very few compared with the total number of professionals in Pakistan.

Technicians and associate professionals record the second lowest Gini coefficient (Gini = 0.280). This group includes whole sort of associate professionals including physical and engineering science, life science and health associates, teaching and other associates etc. This group is very close to the professionals group, that is why it shows less diversity, like professionals, in terms of income inequalities. Again this group of associate professionals is also quite homogenous and uniform in terms of their incomes.

Sub-table 1(b) [Table 1] shows the distribution of income among various professions/occupations in the province of Punjab. Not surprisingly the set of Gini coefficients for Punjab in sub-table 1(b) is exactly matched with the set of Gini coefficients for all Pakistan in sub-table 1(a). Associate professionals/technicians and skilled workers exhibit the only, but a very

minute, exception. In Punjab too highest level of inequality is shown by skilled workers followed by clerks and legislators. Similarly, professionals and associate professionals/technicians show lowest level of inequality. The exact match of coefficients in the two tables indicates the importance/dominance of Punjab data in the total data collected for all Pakistan. The position of other three provinces, namely Sindh, NWFP and Balochistan, is not the same, even though they exhibit the same pattern as shown by Punjab and all Pakistan. The province of Sindh, however, is closer to Punjab than the other two provinces. Compared with all Pakistan and Punjab, the province of NWFP shows consistently high values of Gini coefficients for all occupations/professions. The opposite is true for the province of Balochistan. Relatively high income inequality among various professions/occupations in NWFP is an indicator of the fact that some of the members within each occupation/profession earn/make more money than their fellow members. This could be due to fair or unfair means. This is also probably due to the fact that in NWFP there are less social hindrance for the people to enter into various occupations/professions no matter what may be one's economic or social background. The uniformity of incomes within various professions/occupations in Balochistan is probably reflective of the social rigidity found in that province. In Balochistan, it is probably more difficult to break social/economic barriers compared with other provinces of Pakistan [see sub-tables 1(c), 1(d), 1(e)].

A rather strange phenomenon is observed when we rearrange the data in Table 1 [sub-tables 1(a), 1(b), 1(c), 1(d) and 1(e)] into Table 1(1) [sub-tables 1(aa), 1(bb), 1(cc), 1(dd) and 1(ee)]. In Table 1(1) [sub-tables 1(aa) to 1(ee)] we have rearranged Gini coefficients from highest value to the lowest value. The phenomenon observed is relative inequalities among those professions/occupations, which exhibit high inequality, and among those, which exhibit low inequality. These relative inequalities are presented in the form of difference of Gini coefficients between the two occupations/professions. This new data is presented in the second columns of sub-tables 1(aa) to 1(ee). For example, in sub-table 1(aa), 0.052 is the difference between Gini coefficients of skilled workers and clerks. Single entries are shown at the end of each sub-table [last row of Table 1(1)]. These single entry figures show the level of relative inequality between the most equal profession/occupation and the least equal profession/occupation. For example, 0.277 is the difference between professionals and skilled workers in sub-table 1(aa). The difference figures in second column if each sub-table show that all professions/occupations show same relative inequality in Pakistan as well as in all the provinces of Pakistan. Similarly, same level of relative inequality is observed



between highly equal profession/occupation (professionals) and the most unequal profession/occupation (skilled workers), in all Pakistan as well as in the four provinces of Pakistan. This phenomenon is observed despite the fact that different level of inequality is seen among the provinces in any given profession/occupation. This uniform relative inequality has been established when we arranged the Gini coefficients from higher to lower level inequality professions/occupations.

TABLE 1

Measures of Gini Coefficients (Occupations/Professions) Based on Distribution of Households by Households' Income (HIES 1992/93)

	Occupations/ Professions	1(a)	1(b)	1(c)	1(d)	1(e)
		Pakistan Gini	Punjab Gini	Sindh Gini	NWFP Gini	Balochistan Gini
I	Legislators, Senior Officials and Managers	0.342	0.342	0.340	0.351	0.331
II	Professionals	0.132	0.132	0.129	0.140	0.120
III	Associate Professionals/ Technicians	0.280	0.281	0.278	0.289	0.269
IV	Clerks etc.	0.357	0.357	0.354	0.365	0.346
V	Skilled Workers etc.	0.409	0.410	0.407	0.417	0.398
VI	Unskilled Workers etc.	0.329	0.329	0.327	0.337	0.318

Even more insight is obtained when we further rearrange our data in terms of various professions/occupations. This is what we have done in Table 2, *i.e.* sub-tables 2(a) to 2(f). In sub-table 2(a), Gini coefficients for legislators/senior officials/managers is presented. The table shows that in terms of income inequality, the group of legislators, senior officials and senior managers is highly uniform and homogenous in all the four provinces of Pakistan. The Gini coefficients only varying from 0.331 to 0.351 is almost the same for all Pakistan as well as for the four provinces of Pakistan. This table also shows uniformity and homogeneity of political, economic and administrative ruling classes in our country. In other words, this is an indicator of the fact that ruling class in Pakistan has same socio-economic and family background. Nepotism is so strong that if one brother is high government official (civil/military) then the other could be a legislator and

yet another brother could be chairman of some big public or private business enterprise. This phenomenon is common in all developing countries including Pakistan. A slightly higher Gini coefficient is recorded by NWFP legislators/senior officials/managers compared with other provinces, especially Balochistan. This could be safely attributed to chance. If, however, the difference is real then in NWFP, there are some legislators/senior officials/managers who are making more money (legally or illegally) than their own colleagues in their province. Lower value of Gini coefficient in Balochistan is an indicator of dominance of certain minority, uniform and homogenous, class in all walks of life including economic, political, social, etc.

TABLE 1(1)

Measures of Gini Coefficients (Occupations/Professions) Based on Distribution of Households by Households' Income (HIES 1992/93)

	Occupation/ Profession	1(aa) Pakistan		1(bb) Punjab		1(cc) Sindh		1(dd) NWFP		1(ee) Balochistan	
		Gini		Gini		Gini		Gini		Gini	
I	Skilled Workers etc.	.409		.410		.407		.417		.398	
II	Clerks etc.	.357	.052	.357	.053	.354	.053	.365	.053	.346	.053
III	Legislators, Senior Officials and Managers	.342	.015	.342	.015	.340	.014	.351	.014	.331	.015
IV	Unskilled Workers etc.	.329	.013	.329	.013	.327	.013	.337	.014	.318	.013
V	Associate Professionals/ Technicians	.280	.049	.281	.048	.278	.049	.289	.048	.269	.049
VI	Professionals	.132	.148	.132	.148	.129	.149	.140	.149	.120	.149
		(0.277)		(0.278)		(0.278)		(0.277)		(0.278)	

Professional class in the four provinces of Pakistan including all Pakistan has shown a very low level of inequality among its ranks. All Pakistan, Punjab and Sindh are very close to each other. All Pakistan and Punjab have shown identical Gini coefficient of 0.132 whereas Gini coefficient for Sindh is 0.129. In this group highest level of inequality is observed among the professionals of NWFP with Gini coefficient of 0.140 whereas lowest level of inequality is shown among Balochistan professionals with Gini coefficient of only 0.120. In terms of income inequality, the pattern

of legislators is repeated among the professionals reflecting the fact that there is a very close relation between these classes in the sense that those people who are in the higher income bracket like legislators/senior officials, are closely related to professionals. This relationship could be in the form of kinship and/or economic, political or social association.

TABLE 2

Measures of Gini Coefficients (Professions/Occupations) Based on Distribution of Households by Households' Income (HIES 1992/93)

Area	2(a)	2(b)	2(c)	2(d)	2(e)	2(f)
	Legislators, Senior Officials and Managers	Professionals	Associate Professionals/Technicians	Clerks etc.	Skilled Workers etc.	Unskilled Workers etc.
	Gini	Gini	Gini	Gini	Gini	Gini
Pakistan	0.342	0.132	0.280	0.357	0.409	0.329
Punjab	0.342	0.132	0.281	0.357	0.410	0.329
Sindh	0.340	0.129	0.278	0.354	0.407	0.327
NWFP	0.351	0.140	0.289	0.365	0.417	0.337
Balochistan	0.331	0.120	0.269	0.346	0.398	0.318

Like professionals, technicians/associate professionals also show a very low level of inequality as may be seen from low level of Gini coefficients in sub-table 2(c) of associate professionals. Within this group highest level of inequality is observed in NWFP followed by Punjab and all Pakistan. Whereas lowest level of inequality is shown by Balochistan followed by Sindh.

Income inequality among clerks [sub-table 2(d)] is much higher than the earlier two groups. Within clerks the highest level of inequality is recorded by NWFP (Gini = 0.365) followed by Punjab (Gini = 0.357) and all Pakistan. The level of inequality among the clerks is exactly identical in all Pakistan and Punjab (Gini = 0.357) whereas level of inequality among Sindh clerks differs only marginally by 0.003. In line with the previous three occupations, Balochistan clerks also show lowest level of inequality (Gini = 0.346) among its ranks. This indicates more or less equal opportunity to make money for clerks in this province.

The sub-table 2(e) shows the level of inequality among skilled workers in various provinces of Pakistan including all Pakistan. The table shows that highest level of inequality among skilled workers is in NWFP (Gini = 0.417)

followed by Punjab (Gini = 0.410). The lowest level of inequality, as before, is recorded by Balochistan workers (Gini = 0.398) followed by Sindh (Gini = 0.407) and all Pakistan (Gini = 0.409). The pattern of inequality among the unskilled workers [sub-table 2(f)] is same as we observed in the cases of other professions/occupations. Here again highest level of inequality is observed among NWFP unskilled workers (Gini = 0.337) followed by Punjab (Gini = 0.329) and highest level of equality is seen among Balochistan unskilled workers (Gini = 0.318) followed by Sindh unskilled workers (Gini = 0.327).

What we can conclude from this section is that despite having substantial differences in income inequalities among various professions/occupations, the pattern of income inequality is broadly similar among various provinces of Pakistan.

## V. CONCLUSIONS

1. Within various occupations/professions in Pakistan, highest level of inequality is observed among skilled workers and lowest level of inequality is seen among professionals.
2. The level of inequality among skilled workers is higher than overall inequality in Pakistan and level of inequality among professionals is much lower than the national inequality.
3. Similar pattern is observed within all the provinces of Pakistan.
4. The reason for high degree of inequality observed among skilled workers is diversity of elements brought under the umbrella of skilled workers. Though all workers included in this category are skilled workers, but their earnings are quite diverse.
5. The reason for high degree of equality observed among professionals is that almost all the professionals included here are government employees and government pays in terms of uniform grading system to all of its professional employees.
6. The province of Punjab exhibits almost same inequality pattern, as does all Pakistan. This shows the dominance of Punjab data in the total data collected for all Pakistan as well as the importance of Punjab population within the total population of Pakistan.
7. The relative inequality among occupations/professions is same in all the provinces of Pakistan (including all Pakistan).

8. Within various occupations/professions, lowest level of inequality is observed in the province of Balochistan and highest level of inequality is seen in NWFP. In other words, all occupations/professions in Balochistan exhibit lowest inequality among its ranks and all occupations/professions in NWFP show highest level of inequality among its members.
9. Relatively higher income inequality among various occupations/professions in NWFP is an indicator of the fact that some of the members within each occupation/profession earn/make more money (legally or illegally) than their fellow members. This could also be due to the fact that, in NWFP, there are less social barriers for the people to enter into various occupations/professions no matter what is one's social/economic background. The opposite arguments apply for the province of Balochistan.

### BIBLIOGRAPHY

- Ahmad, Ehtisham and Ludlow, Stephen (1989), Poverty, inequality and growth in Pakistan. *The Pakistan Development Review*, Volume 28, No. 4, pp. 831-850.
- Ayub, M. A. (1984), Sources and Structure of Income Inequality in Pakistan. Paper presented at the 2<sup>nd</sup> annual general meeting of Pakistan Society of Development Economists, Islamabad.
- Bergan, Asbjorn (1967), Personal income distribution and personal savings in Pakistan, 1963/64. *The Pakistan Development Review*, Volume 7, No. 2.
- Cheema, A. A. (1986), Poverty in Pakistan: Some new dimensions. Unpublished paper, PIDE, Islamabad.
- Cheema, A. A. and Malik, M. H. (1984), Consumption and employment effects of income redistribution in Pakistan. *The Pakistan Development Review*, Volume 23, No. 2&3, pp. 347-360.
- Choudhary, M. K. (1982), Foreign aid and economic development: A case study of Pakistan with special reference to poverty and income distribution. Unpublished Ph.D. thesis, University of Salford.
- Choudhary, M. K. (1984a), The statistical evidence on income inequality in Pakistan: Some observations. *The Kashmir Economic Review*, Volume 1, No. 1.
- Choudhary, M. K. (1984b), Income inequality in Pakistan: Some estimates based on household income per capita. *The Kashmir Economic Review*, Volume 1, No. 2.
- Choudhary, M. K. (1995), National and provincial size distribution of income in Pakistan. *Journal of Economics*, Volume 2 (September).
- Choudhry, M. G. (1982), Green revolution and redistribution of rural income: Pakistan experience. *The Pakistan Development Review*, Volume 21, No. 3.
- Datta, Gupta and Meerman, Jacob (1980), Household income or household income per capita in welfare comparisons. *Review of Income and Wealth*, Series No. 26.
- Ercelawn, Ahmad (1988), Income inequality in Pakistan during the 1970s: Issues in estimation. Discussion Paper No. 92. Applied Economics Research Centre, Karachi.
- Government of Pakistan, *Economic Survey 1998-1999*. Ministry of Finance, Islamabad.

- Government of Pakistan, *HIES 1992/93*. Federal Bureau of Statistics, Statistics Division, Islamabad.
- Henry, R. M. (1975), A note on income distribution and poverty in Trinidad and Tobago. Research Working Paper WEP 2-23/WP 29, Geneva, ILO.
- Hsia, R. and Chan, L. (1978), Industrialization, employment and income distribution: A case study of Hong Kong. A study prepared for ILO, London Croom Helm.
- Hussain, Akmal (1992), Poverty and Poverty Alleviation. Paper presented to Pakistan Institute of Development Economics and Planning Commission of Pakistan as an input into 8<sup>th</sup> Five Year Plan 1993-98.
- Iqbal, M. Q. (1988), Use of inequality measures in calculating income elasticity. *The Pakistan Journal of Applied Economics*, Volume 7, No. 1.
- Jafari, S. Y. and Khattak, Azizullah (1995), Income inequality and poverty in Pakistan. *Pakistan Economic and Social Review*, Volume XXXIII, No. 1&2.
- Jeetun, A. (1981), Trends in inequality of income distribution in Pakistan. Discussion Paper No. 29. Applied Economics Research Centre, University of Karachi.
- Kakwani, Nanak (1980), *Income Inequality and Poverty: Method of Estimation and Policy Application*. New York: Oxford University Press.
- Kemal, A. R. (1981), Income distribution in Pakistan: A review. Research Reports Series No. 123. Pakistan Institute of Development Economics, Islamabad.
- Kemal, A. R. (1994), Structural adjustment, employment, income distribution and poverty. *The Pakistan Development Review*, Volume 33, No. 4, pp. 901-911.
- Khadija, Haq (1964), A measurement of inequality in urban personal income distribution in Pakistan. *The Pakistan Development Review*, Volume 4, No. 4 (Winter).
- Khan, M. F. (1990), Factors of production and factor markets in Islamic framework. *Islamic Economics* (Journal of King Abdul Aziz University), Volume 2.
- Kondor, Yaakov (1975), The Gini coefficients of concentration and the Kuznets measure of inequality: A note. *Review of Income and Wealth*, Series 21, No. 3 (September).
- Koutsoyiannis, A. (1979), *Theory of Economics*, 2<sup>nd</sup> edition.
- Kruijk, de Hans (1986), Inequality in the four provinces of Pakistan. *The Pakistan Development Review*, Volume 25, No. 4.

- Kruijk, de Hans and Myrna, Van Leeuwen (1985), Changes in poverty and income inequality in Pakistan during 1970s. *The Pakistan Development Review*, Volume 24, No. 3&4.
- Kumar, Datta (1974), Changes in income distribution and poverty in India: A review of the literature. *World Development*, Volume 2, No. 1.
- Kuznets, Simon (1955), Economic growth and income inequality. *American Economic Review*, March.
- Kuznets, Simon (1963), Quantitative aspects of economic growth of nations: Distribution of income by size. *Economic Development and Cultural Change*, Volume II.
- Kuznets, Simon (1976), Demographic aspects of the size distribution of income: An exploratory essay. *Economic Development and Cultural Change*, Volume 25, No. 1 (October).
- Mahmood, Zafar (1984), Income inequality in Pakistan: An analysis of existing evidence. *The Pakistan Development Review*, Volume XXIII, Nos. 2&3.
- Morgan, James (1962), The analogy of income distribution. *Review of Income and Statistics*, Volume XLII, No. 3 (August).
- Mujahid, G. B. S. (1978), A note on measurement of poverty and income inequalities in Pakistan: Some observations on methodology. *The Pakistan Development Review*, Volume 17, No. 3.
- Ojha, P. D. (1971), Pattern of income distribution in India, 1953-55 to 1961-64 (Mimeographed).
- Visaria, P. (1978), Demographic factors and the distribution of income: Some issues. Paper presented for the Conference on Demographic and Economic Change: Issues for the 1980s, convened by the International Union for the Scientific Study of Population, Helsinki, August 28 to September 1.
- Yotopoulos, Pan (1987), The world distribution of income: Real poverty and affluence. *The Pakistan Development Review*, Volume XXVI, No. 3 (Autumn).