TAX PROGRESSIVITY IN PAKISTAN

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As the government plays a crucial role in the process of
economic development, fiscal policy assumes great importance
in the developing countries. Fiscal policy, through changes in
the structure of taxes and expenditures, affects the level and
the structure of gross national product, savings, resource
allocation, distribution of income, level of employment, etc.
However, in this study, our interest is limited to the impact
of tax structure on the distribution of income. But that in no
way implies that either the public expenditures or the effects
of fiscal policy on other economic variables are unimportant.

Although the existing system in Pakistan aims at the
attainment of manifold objectives such as a better distribution
of income, to encourage savings, investment and growth of the
economy, yet the fact remains that the tax policy in Pakistan
has been primarily guided by the need to generate higher levels
of public revenues.

Indirect taxes have always been the major source of
government revenues in Pakistan. Of course, direct taxes are
also imposed but they form an insignificant proportion (about
7 to 8 percent) of the total tax receipts mainly because of
the non-existence of taxation on agricultural incomes and a
number of exemptions allowed in the case of non-agricultural
incomes.

Generally, it is believed that indirect taxes affect the low incomegroups to a greater extent than they affect the higher incomegroups i.e. they are regressive. However, this is Q hypothesis which requires to be tested. The distributional effects of taxes can be analysed by studying reactions of commodity and factor prices to changes in a particular tax or by measuring the overall changes in the pattern of income distribution. Moreover, in a cross-section analysis, we may study the effect of taxation on the welfare of different income groups.

Only few studies have been done which examine the tax structure in developing countries. These include Mclura [10, 11, 12] on Panama, Columbia and Malaysia; and Salkin [25] on Thiland.

Research on the problems of fiscal policy and taxation in Pakistan deals mostly with the fiscal system in general [1, 5, 7, 8, 13, 22, 23]. Very few studies have been done in order to see the effect of taxes on individuals belonging to different income groups. Haq [6] using tax-return data estimated income inequality for higher (tax-paying) income groups (which constitutes one per cent of the total in the urban population), and comes to the conclusion that income inequality although very high, has decreased over time for tha tax-paying class.[1]

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[1] But various indirect checks reveal that inequality of income between the tax paying population (0.1 per cent of the total population and 1.0 per cent of urban population) and the rest of the people may have been increasing [6]. She latter observes that reduction in income inequality may be a reflection of increasing tax evasion by the higher income groups rather than show a real trend [6, p.640].

Azfar [2] studying the incidence of taxation on income distri-
bution for the year 1966-67 comes to the conclusion that the
tax system in Pakistan is progressive, the rate of progression
being more in the urban areas than in the rural areas.

The purpose of this paper is to study the tax burdens,
both direct and indirect, for different income groups living
in rural and urban areas of Pakistan. The study is based on
cross-sectional analysis for the years 1966-67, 1968-69, 1969-70
1970-71 and 1971-72. The paper is divided into six sections.
Section-I deals with the introduction and a brief review of the
literature; Section-II discusses the tax structure of Pakistan;
Section-III includes a discussion on the methodology and data
availability; Section-IV presents the analysis and results;
Section-V draws policy implications and finally Section-VI,
summarizes the major conclusions of the study.

II. TAX STRUCTURE OF PAKISTAN

Pakistan has, throughout her history, relied heavily on
indirect taxes to meet her rising public expenditure. Indirect
taxes accounted for about 79 per cent in 1948-49 but their
share increased to 91 per cent by 1971-72. On the other hand,'
the share of direct taxes has gone down from 16.1 per cent to
8.7 per cent over the same period.[2] These percentages show a
very high degree of Pakistan's dependence on indirect taxes and
very little effort in the direction of raising direct taxes. In

[2] The share of indirect taxes in 1979-80 stood at 17.66 per cent while that
of indirect taxes was 80.48 per cent for the same per [21].

an IMF study [8, p.270], the median of direct taxes as a per-
centage of total tax revenue of 30 developing countries was
30.2 per cent in 1966-68, which is significantly higher than
that of Pakistan which was 21.4 per cent.[3]

In Table 1, we have given the share of different taxes in
total tax revenues of the Central Government over the period
1948-49 to 1971-72. Within the indirect tax structure, there
have been significant changes. While the share of custom
duties has declined from 61 per cent in 1948-49 to 36 per cent
in 1971-72, the share of excise duties has increased tremen-
dously, from 9 per cent to 49 per cent over the same period.[4]
The other major indirect tax, namely sales tax, contributed
about 8 per cent in 1948-49 but there have been a number of
fluctuations over time and in 1971-72 its share was less than
six per cent.[5]

III. METHODOLOGY & DATA AVAILABILITY

In this paper, we have followed the methodology adopted by
Salkin [25] for estimating tax elasticity which essentially
consists of deriving elasticities of direct and indirect tax
burdens with respect to income.

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[3] This average percentage of tax for Pakistan is lower then the 25 per cent
in 1953-55 [8, p.270].

[4] But from 1972-73 to 1980-81 the share of Excise duties has remained con-
stant at 32 per cent, custom duties at about 40 per cent while that of sales
tax increased by about 2 per cent for the same period [21].

[5] Central Excise Tax progressivily expeanded over the years as a result of
expansion in the Industrial sector; and also becuase most of the sales tax
have been merged with it [21].

Table 1

Percentage Share of Different Taxes to
Total Tax Revenue of Central Government

Year	Customs	Sales Taxes	Excise Tax	Indirect Taxes	Income & Corporation Taxes	Other Taxes
1948-49	61.09	7.74	9.91	78.74	12.23	2.06
1949-50	58.81	12.44	7.17	78.42	16.08	2.10
1950-51	71.03	6.15	6.15	83.69	12.12	2.17
1951-52	64.75	11.44	5.59	81.69	13.58	2.68
1952-53	60.02	11.85	6.37	78.24	16.02	3.62
1953-54	43.69	10.47	15.39	70.09	21.87	5.08
1954-55	46.26	11.79	12.84	70.89	21.58	5.07
1955-56	50.12	12.33	12.13	74.58	19.24	4.03
1956-57	45.96	12.95	14.17	73.08	20.69	4.33
1957-58	40.11	13.61	18.48	72.20	22.93	4.82
1958-59	35.51	12.24	19.00	66.75	28.64	4.66
1959-60	40.15	12.18	20.41	72.74	22.85	4.33
1960-61	37.40	15.74	21.86	75.00	20.40	4.21
1961-62	38.96	14.86	21.41	75.23	22.43	2.18
1962-63	43.77	14.53	24.56	82.86	16.63	0.50
1963-64	37.48	13.67	32.26	83.41	16.49	0.11
1964-65	42.85	11.17	28.99	83.01	14.24	2.76
1965-66	41.27	13.57	32.31	87.15	11.00	1.85
1966-67	38.17	11.10	38.79	88.06	10.08	1.86
1967-68	37.71	6.71	46.40	90.82	7.98	1.20
1968-69	40.27	8.46	42.25	90.88	7.71	1.31
1969-70	36.66	7.42	45.89	88.97	9.88	1.15
1970-71	37.68	5.49	47.87	91.04	8.53	0.43
1971-72	35.98	5.65	49.19	90.82	8.74	0.44

Source: / 16 /

The following two assumptions have been made throughout the paper.

i) Income tax and all other direct taxes[6] are borne entirely by the individuals who pay them.

ii) General sales tax and excise duties are borne by the consumer of the goods on which they are levied.[7]

Tax burdens have been calculated for households corresponding to different groups of incomes as reported in the household Income and Expenditure Surveys[8] [19]. We have taken into consideration the sales taxes and excise duties. Import duties have been disregarded in the computation of tax burden because it is generally believed that the incidence of an increase in the tariff rate will not be shifted to the consumer [Pal. 22, 23, Alamgir, 1].[9] Similarly, export duties have been progressively reduced or withdrawn over the years with a view to strengthen the export efforts, [(Budget 1971-1972)] and this have been disregarded.

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[6] These include property tax water conservancy charges and some "other direct taxes" as given in the Household Survey [19].

[7] In most of these tax incidence studies sales tax and excise duties are assumed to be passed on in full to the consumers [7, 13].

[8] Tax burdens have been calculated for indirect taxes by assigning approximate tax rate [17] to different consumption items for each income groups by their prices [15] and quantity consumed [19].

[9] Pal [22,23] and Alamgir [1] comparing the c.i.f. prices of imports with corresponding whole sale prices concluded that an increase in the tariff rates would not be shifted to the consumer since the difference would be much greater than the combined customs duty and the sales tax. Alamgir's results are however, true only upto 1972 after which this conclusion does not hold.

Total tax burdens have been estimated for a representative population in each income group.[10] Total tax burdens are defined as:-

$$T_i = T_{1_i} + T_{2_i}$$

where

T_i = Per capita total tax burden on the ith income group

T_{1_i} = Per capita tax burden on the ith income group associated with direct taxes.

T_{2_i} = Per capita tax burden on the ith income group associated with indirect taxes.

The tax burden so computed for each group are regressed against income to obtain elasticity of tax burdens using the following equation:

$$\text{Log } T_i = a_0 + b \log Y_i$$

where

Y_i = Per capita income of ith income class

and

b>1 implies progressivity and b<1 the regressivity of the tax structure.

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$$T = T_1 + T_2$$

where
$T_2 = a_i E_i$ (a_i is the amount of tax paid on consumption expenditure E)
therefore,

$$T = T_1 + a_i E_i$$

$$\frac{Y}{T} \frac{dT}{dy} = \frac{T_1}{T} \left(\frac{Y}{T} \frac{dT}{dy}\right) + \frac{T_2}{T} \left(\frac{Y}{E} \frac{dE}{dy}\right)$$

Thus elasticity of total tax burden is the weighted average of

$$T_1 \text{ and } T_2$$

As we have used grouped data, the Ordinary Least Square method (OLS) cannot be used. Instead, we have used Generalized Least Squares i.e. weighted least squares where each observation has been assigned a weight equal to the number of households in that income group.

Although similar to Azfar's study [2] in methodology, our paper differs in two respects. In azfar's study [2] (a) data from different sources are spliced which cannot be really done and (b) tax burden mostly of direct taxes, is emphasized, whereas almost 60 per cent of the people are below or on the poverty line which do not pay direct taxes. Moreover, Azfar's study [2] is restricted to just one year, 1966-67, while in this study changes in the tax progressivity over 1966-67 to 1971-72 period are compared and conclusion are drawn.

Data Availability

The primary source of information for this study are the Household Income and Expenditure Surveys [19] for the years 1966-67 to 1971-72.[11] These Surveys provide data on pre-and post-income and consumption expenditure for 13 income groups. Data for excise and sales tax rates are taken from published and unpublished reports of the Central Board of Revenue (CBR) [14,18] and Fiscal Policy of Pakistan [20], whereas the data on price changes have been taken from several different issues of the Monthly Statistical Bulletin [15] and Economic Surveys of Pakistan [21].

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[11] The Household income and Expenditure Surveys conducted by the C.S.O., government of Pakistan are commonly referred to as the Household Surveys or the Surveys. These Surveys were discontinued after 1971-72.

It can be argued that since the Household Survey under-
states income of the highest income group, the Household Survey
data may be supplemented by the data from Income Tax Returns and
the Agriculture Census data. Azfar [2] did adjust the data but
because there is a vast difference in the coverage of the two
data sets splicing may not be justifiable.

Thus, considering the problem faced by using different
data sources we have confined ourselves to the Household Survey
data [19]. Although the availability and coverage of the data
on income and expenditure distribution have greatly increased,
unfortunately it has not been accompanied by an adequate
improvement in quality. The concepts of households income and
consumption expenditure are used in this study; and since our
interest is to make a comparison between taxes paid and total
incomes we shall relate taxes to total income. These
estimates of income and expenditure for Pakistan, as those of
other developing countries, are at best, approximations of the
underlying distribution we wish to study. These limiations
present a familiar dilemma in empirical research — the data
are weak but that is all that is available. Because of the
errors in the data. We assume that, unless and until better
data are available, cautious use of the existing data will pro-
vide some perspective on the nature of the problem under study.

IV. RESULTS

a. *Percentage Analysis of Tax Burdens*

A cursory look at Appendix Table I, which presents the
ratio of tax paid to income for different income classes in

Pakistan, shows that total taxes are regressive except for the highest incomes groups, in 1966-67, 1968-69, 1969-70; but are slightly progressive during 1970-71 and 1971-72. Direct taxes for Pakistan are slightly progressive over the years whereas indirect taxes are generally quite regressive. Besides, the average tax burden has declined over the years for almost all income classes.

In urban areas [Appendix Table II] direct taxes are progressive, whereas indirect taxes are regressive. Thus total taxes exhibit a slightly progressive tax structure. The Table [Appendix Table II] also shows that only those income groups paying income tax, the urban populationpays higher direct taxes than the rural population, and in this range the differentials between rural and urban sector widens appreciably. This is so because even at the highest level the rural sector pays very low percentate of direct taxes paid [3, p.143]. Although there has been a slight increase in the absolute amount of direct taxes over the years in urban areas, there has actually been a slight decline in the percentage of total tax paid over income classes[12] over the years. Indirect taxes are regressive in both the rural and the urban areas. In rural areas [Appendix Table III] total taxes are also regressive for individuals in all the income classes. Thus both direct and indirect taxes show a decline in percentage points as income

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[12] According to Azfar [2, p.134] the average tax burden in 1966-67 is very low specially for the first (lower) 4 income groups out of six. But our results show that they are much lower than Azfar's [2].

increases except for the highest income groups in 1966-67 and 1970-71.
These results are confirmed by the following regression analysis.

b. *Regression Analysis*

In order to see how overall elasticities are affected by
taxes on different individual items we randomly chose two years,
1968-69 and 1971-72, and analysed tax burdens for 12 different
items.

It can be seen from Table II that in the rural areas,
taxes (both direct and indirect) on all items are regressive
except for cigarettes and sugar, which are significantly
progressive for the two years 1968-69 and 1971-72, but shows a
decline in progressivity in 1971-72. Taxes on tea, crockery and
footwear which have relatively more elastic demand are slightly
less regressive than the taxes on commodities with relatively
more inelastic demand such as kerosene oil, matches, salt and
vegetable oil/gee. Amongst direct taxes, taxes on income,
property and water conservancy charges are regressive for both
the years.

In urban areas (Table III) Total and Direct taxes are
progressive while Indirect taxes are regressive. Taxes on tea,
Kerosene oil, footwear and sugar are slightly regressive,
regressivity increasing in 1971-72. While taxes on commodities
with relatively more inelastic demand like salt and vegetable
oil/ghee are highly regressive, showing an increase in the
elasticity coefficient (i.e. lesser regressivity) in 1971-72.
Tax on cigarettes although progressive, are not significantly

Table II

Regression Results for Rural Areas

Independent Variable Household Income	1968-69		1971-72	
	β	R^2	β	R^2

Dependent Variable
    Tax on

1. Tea	.736 (2.178)	.786	.864 * (1.160)	.831
2. Cigarettes	1.658 (3.366)	.878	1.439 * (1.494)	.706
3. Crockery	.617 (2.461)	.611	.682 (14.725)	.683
4. Kerosene oil	.047 (10.485)	.026	.027 (14.925)	.016
5. Matches	.082 (3.583)	.128	.005 (1.95)	.000
6. Footwear	.611 (9.828)	.960	.655 (3.157)	.765
7. Salt	.052 (16.101)	.060	.191 (8.20)	.136
8. Sugar	1.586 (4.526)	.938	1.400 (3.150)	.917
9. Vegetable ghee/oil	-.356 (5.933)	.213	-.457 (5.018)	.184
10. Water conservancy charges	.025	.017	--	
11. Direct taxes	.213 (2.732)	.057	.258 (3.18)	.046

t - statistics in parenthesis

* insignificant at 95 percent level of confidence

Table III

Regression Results for Urban Areas

	1968-69		1971-72	
	β	R^2	β	R^2
Dependent Variable Tax on				
1. Tea	.779 (3.025)	.911	.738 (3.393)	.892
2. Cigarettes	1.105 * (.719)	.838	1.021 * (1.357)	.759
3. Crockery	.760 (6.314)	.973	1.193 * (1.357)	.865
4. Kerosene oil	.788 (2.539)	.740	.306 (6.449)	.423
5. Matches	1.702 (19.412)	.590	-.131 * (1.41)	.075
6. Footwear	.632 (9.985)	.964	.583 (7.002)	.897
7. Salt	-.081 (30.613)	.025	-.037 (24.190)	.064
8. Sugar	.845 * (1.356)	.832	.748 (2.114)	.781
9. Vegetable oil/ghee	.282 (19.510)	.843	.321 (27.72)	.940
10. Water conservancy charges	9.939 (5.057)	.719	1.844 (2.494)	.749
11. Direct taxes	2.340 (17.314)	.989	3.493 (9.880)	.946

t - statistics in parenthesis

* insignificant at 95 percent level of confidence

different from one suggesting proportionality for both the years.
Tax on Matches are significantly progressive for 1968-69, but
are highly regressive in 1971-72 and shows a negative relation-
ship with income. This is mainly due to a change in consumption
patterns of the people in the two years.

Amongst direct taxes in urban areas, water conservancy
charges are progressive for both the years; but have declined
from highly progressive in 1968-69 to a considerably less
progressive in 1971-72. Income tax, property tax and other
direct taxes are progressive for both the years, progressivity
increasing in the later year i.e. 1971-72.

The analysis presented above help us to understand the
overall tax elasticities. In rural areas, since both direct
and indirect taxes are regressive, the overall total tax
elasticities will show a regressive tax structure. While in
the urban areas, as apriori expected, indirect taxes are
regressive and direct taxes are progressive: the resulting
total elasticities will show a slightly progressive tax system.

The following analysis now shows the aggregated tax elas-
ticities for rural and urban areas as well as for Pakistan
(rural and urban sectors combined).

URBAN AREAS: The Table IV below shows the tax elasticities for
urban areas of Pakistan.

Table IV

Elasticities of Tax Burdens for Urban Areas

Dependent variable	1966-67	1968-69	1969-70	1970-71	1971-72
Director Taxes	2.542 (14.577)	2.522 (13.132)	2.351 (0.858)*	2.674 (9.148)	2.916 (8.498)
Indirect Taxes	0.792 (4.297)	0.766 (4.795)	0.753 3.965)	0.766 (6.087)	0.705 (5.086)
Total Taxes	1.091 (1.534)*	1.054 (1.314)*	1.016 (0.247)*	1.088 (2.047)	1.239 (4.370)

t - statistics in parenthesis
* insignificant at 95 percent level.

For direct taxes, elasticity coefficients suggests a significantly progressive tax structure and show an increasing trend from less progressivity to more progressivity in the later two years, 1970-71 and 1971-72. This is mainly due to an increase in the progressivity of income tax which outweigh the decline in the progressivity of water conservancy charges. Indirect taxes although significantly regressive for all the years, show no change in the trend over the years covered in this study.

The combined effect of these two taxes — direct and indirect show a slightly progressive total tax system in urban areas; the progressivity increasing in the latter two years, viz. 1970-71 and 1971-72. As a matter of fact, the coefficients for

1966-67, 1968-69 and 1969-70 are not even statistically diffe-
rent from unity suggesting a proportional tax system for those
years.

RURAL AREAS: Table V below shows elasticities of tax burdens
for the rural areas of Pakistan.

Table V

Elasticities of Tax Burdens for Rural Areas

Dependent variables	1966-67	1968-69	1969-70	1970-71	1971-72
Direct Taxes	1.532 (1.92)	0.228 (2.709)	0.097 (6.227)	0.809 (0.54)*	0.055 (3.02)
Indirect Taxes	0.676 (3.772)	0.456 (8.255)	0.514 (9.142)	0.589 (6.387)	0.660 (4.416)
Total Taxes	0.713 (2.95)	0.430 (7.412)	0.502 (9.396)	0.628 (4.576)	0.596 (5.206)

t - statistics in parenthesis.

* insignificant at 95 per cent level of confidence.

In the rural areas, both direct and indirect taxes are
regressive. Direct taxes show a significant shift from progres-
sivity in 1966-67 to regressivity in 1971-72. For the years
1968-69, 1969-70 and 1971-72, elasticity coefficients suggest
that indirect taxes are highly regressive. Since there are
almost no direct taxes in rural areas; and those that are , are
haphazardly scattered over different items. Data on direct taxes
in rural areas are therefore, not helpful for any analysis as it
forms such an insignificant portion of total direct taxes.

Indirect taxes in rural areas are significantly reg-
ressive for all the years. From slightly regressive taxes in
1966-67 it has become more regressive for the next three years
namely 1968-69, 1969-70 and 1970-71; improving slightly in
1971-72, but still below the 1966-67 level.

The combined effect of these direct and indirect taxes
in rural areas is quite obvious. Total tax elasticities are
all significantly less then one suggesting regressivity.
Following the same pattern as direct and indirect taxes, there
has been an increase in regressivity over the years as
suggested by lower elasticity coefficients relative to 1966-67.

PAKISTAN: Table VI below shows the combined effect of taxes in
rural urban sectors of Pakistan.

Table VI

Elasticities of Tax Burdens for Pakistan

Dependent variables	1966-67	1968-69	1969-70	1970-71	1971-72
Direct taxes	2.493 (10.613)	1.958 (6.241)	1.983 (4.528)	2.472 (15.301)	2.446 (8.287)
Indirect taxes	0.823 (3.384)	0.696 (5.153)	0.824 (0.034)*	0.904 (3.322)	0.883 (2.715)
Total taxes	1.040 (0.505)*	0.923 (0.897)*	0.957 (0.604)*	1.133 (2.552)	1.228 (4.254)

t - satistics in parenthesis

* insignificant at 95 percent level of confidence

For Pakistan, direct taxes are all highly progressive, but for a slight fall in 1968-69 and 1969-70 progressivity has remained more or less constant over the years. Indirect taxes are slightly regressive over the years covered in the study. They show a slight increase in regressivity in 1968-69, but although the coefficients are statistically different from one, numerically they are almost close to one (proportional) for the next three years, 1969-70, 1970-71, 1971-72. This is mainly due to a decline in regressivity of tax on commodities with relatively more inelastic demand (and no substitutes available) like salt, vegetable oil/ghee etc. as discussed earlier.

Total taxes, were slightly progressive in 1966-67 but are regressive in 1968-69.and 1969-70. The coefficients for these two years are not significantly different from one suggesting a proportional tax system. However, for the last two years of the study namely 1970-71 and 1971-72, the tax elasticities suggest a significantly progressive tax structure with an increase in tax progressivity in the latter two years.

V. POLICY IMPLICATIONS

It is generally believed that major shifts in the distribution of tax burdens are difficult to achieve. Yet in Pakistan there has been a significant increase in the overall progressivity of taxes, specially in the last two years of our analysis i.e. 1970-71 and 1971-72. Although elasticities of direct tax have been much higher, resulting in an overall progressive tax structure, we believe that shifts within the direct taxes may also bring about progressivity in the existing tax structure.

Table VII below shows that the tax system can be more progressive without an increase in the share of direct taxes and this is confirmed by a very insignificant negative correlation between the share of direct taxes and the elasticity of total taxes.

Table VII

Correlation Between the Share of Direct Taxes And Elasticity of Total Taxes in Pakistan

Year	Share of Direct taxes to total taxes	Electricity of total taxes
	(in percent)	
1966-67	10.08	1.04
1968-69	7.71	.923
1969-70	9.88	.957
1970-71	8.53	1.133
1971-72	8.74	1.228
	$r = -.97$	

Thus, although the share of direct taxes did not increase the tax structure became more progressive during the Seventies, which is contrary to the generally accepted hypothesis that progressivity of taxes can only be realized through an increase in the share of direct taxes.

This does not mean that direct taxes do not play an important role in making the tax system more equitable. However, whereas it is not possible to increase the share of direct taxes because of a narrow tax base; tax progressivity may be significantly increased by changing the structure of indirect taxes.

Import changes were brought about in the indirect tax structure
during the period under study. During this period, sales tax
declined from 11.09 per cent in 1966-67 to 5.6 percent in
1971-72 and excise duties increased from 38.8 percent in 1966-67
to 49.2 percent in 1971-72. Yet the overall share of indirect
taxes remained almost constant. Thus, the government policy
of indirect taxation may have been instrumental in bringing
about a progressive tax structure. Therefore, the government
should revise the indirect tax structure in such a way that
the rich are taxed more effectively. Since we have considered
essential commodities only, a policy of imposing greater taxes
on luxuries, etc., will not only reduce the demand for scarce
commodities but will also lead to a desirable allocation of
resources. Thus, imposing higher indirect taxes on commodities
like petrol, cigaretts and utilities like telephone, gas and
electricity will not only provide more revenue to the treasury
but will also lead to a more progressive tax system. But any
such policy of indirect taxation should go along with increased
use of direct taxation in order to achieve an equitable income
distribution in the long run.

VI. CONCLUSIONS

An interesting conclusion emerges from the above
analysis. The overall tax progressivity has increased in
Pakistan specially in the last two years of our analysis, 1970-
71 and 1971-72.

Total taxes in urban areas are progressive and show an increase in progressivity in the latter two years of our study namely 1970-71 and 1971-72, whereas rural taxes are regressive. As a result, the overall pattern of total tax for Pakistan are slightly progressive, progressivity increasing in the latter two years like that in the urban areas. Direct taxes were progressive for Pakistan as a whole specially in the urban areas. In urban areas, direct taxes are highly progressive, showing an increase in progressivity in the latter two years mainly doe to increased urban incomes and greater share of urban direct taxes in the total taxes for the years 1970-71 and 1971-72; whereas rural direct taxes show a change from progressivity in 1966-67 to regressivity in 1971-72.

The share of direct taxes which are considered superior from the income distribution point of view has declined over the years in Pakistan. The rural agricultural sector which contributes almost 50 per cent of the GNP and employs 70 per cent of the total population does not pay any direct taxes;[14] whereas the urban population that does pay direct tax, pays very low amounts of direct tax in absolute terms. Analysis of direct tax burdens in rural areas in this study, therefore, do not throw any meaningful light. However, the analysis has been done only for comparing the results for rural areas with tose of urban areas and their affect on the overall tax system.

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[14] Inspite of the fact that the Third, Fourth and Fifth Five year Plans emphasize tax on agriculture incomes, the tax was dropped due to various reasons when introduced and no concrete steps had been taken to implement it. Although it will bring little revenue, it would have been a good exercise in direct taxation.

The share of indirect taxes in both rural and urban sectors are greater and taxes are regressive in nature. Although elasticities are constant over the years in both the sectors, they are greater in the urban areas (i.e. less regressive) than the rural areas.

When estimating the elasticities of indirect tax on individual items of consumption we found that commodities with relatively more inelastic demand are also relatively more regressive. But there seems to have been a slight improvement towards lesser regressivity in the last year of our study, namely 1971-72.

Although indirect taxation is an elastic and dependable source of revenue, heavy reliance on taxation of goods, with relatively inelastic demand is not very desirable as it falls heavily on low income groups. Thus, in rural areas where people have lower incomes compared to urban areas, and equity in the distribution of consumption rather than equity in the distribution of income is more important, this burden is more strongly felt as both direct and indirect taxes are regressive and the inequality gap widens because the incomes of the rural rich indulging in conspicuous consumption, is not subject to tax.

APPENDIX TABLE -1
PER CAPITA TAX AS A PERCENTAGE OF INCOME FOR PAKISTAN

	1966-67				1968-69				1969-70			
	Annual per capita Income (Rs.)	Tax %age of Income			Annual per capita Income (Rs.)	Tax %age of Income			Annual per capita Income (Rs.)	Tax %age of Income		
		Direct	Indirect	Total		Direct	Indirect	Total		Direct	Indirect	Total
All Groups	468.66	.97	2.90	3.87	477.911	.561	2.69	3.22	505.13	.657	3.08	3.67
Less than 50	160.940	.102	5.56	5.66	225.696	.262	3.52	3.78	124.03	.300	6.18	6.48
50 - 90	265.553	.034	3.40	3.49	273.726	.102	3.18	2.81	293.114	.123	3.19	3.31
100 - 149	322.068	.096	2.96	3.01	364.316	.160	3.42	3.53	348.517	.116	3.22	3.33
150 - 199	386.020	.117	2.95	3.06	411.056	.210	3.29	3.50	409.516	.121	3.20	3.32
200 - 249	434.177	.157	2.92	3.08	471.000	.206	3.36	3.56	456.504	.150	2.94	3.09
250 - 299	471.525	.191	2.63	2.75	560.279	.191	3.18	3.37	496.635	.171	3.02	3.19
300 - 399	553.562	.207	2.91	3.16	574.484	.277	2.99	3.27	576.316	.204	2.89	3.10
400 - 499	632.572	.422	3.01	3.43	696.757	.318	2.78	3.10	705.942	.212	3.02	3.23
500 - 749	836.554	.422	2.98	3.41	840.367	.376	2.38	2.80	853.384	.426	2.82	3.25
750 - 999	1337.303	.407	2.03	2.51	973.135	.589	2.30	2.89	1169.006	.110	1.98	2.09
1000 - 1499	1831.346	2.56	2.36	3.49	2138.776	.291	1.34	1.53	1959.500	1.63	2.60	4.24
1500 - 2999	2475.073	1.41	2.33	4.75	2670.702	1.43	1.49	2.92	2178.233	2.17	1.90	4.07
2000 and above	4147.312	6.32	1.65	8.48	3981.617	2.88	1.72	4.62	4677.867	2.18	3.13	5.02

Contd.

Annual per capita Income (Rs.)	Tax %age of Income			Annual per capita Income (Rs.)	Tax %age of Income		
	Direct	Indirect	Total		Direct	Indirect	Total
531.600	.804	2.58	3.43	549.269	.798	1.97	2.72
293.857	.118	2.99	3.11	167.822	.75	3.51	3.75
376.364	.100	2.71	2.81	323.187	.120	2.09	2.21
371.896	.106	2.77	2.88	357.932	.150	1.94	2.09
420.658	.134	2.71	2.85	406.987	.110	1.94	2.05
467.651	.157	2.75	2.91	465.346	.132	1.94	2.07
514.709	.169	2.61	2.78	498.702	.142	2.01	2.16
593.868	.194	2.66	2.71	560.208	.209	1.94	2.15
667.948	.212	2.83	3.04	651.830	.241	2.07	2.31
859.959	.354	.254	2.90	802.521	.390	1.90	2.27
1115.225	.942	2.29	2.23	1040.418	.778	2.00	2.78
1680.830	1.195	2.47	3.67	1578.543	1.515	1.70	3.22
2262.863	1.82	2.05	4.34	2572.853	2.694	1.28	3.97
4290.22	4.95	2.35	7.30	3743.833	3.137	1.19	4.33

Source : / 19,20 /

APPENDIX TABLE- II
PERCAPITA TAX AS A PERCENTAGE OF INCOME FROM
URBAN AREAS OF PAKISTAN

Monthly Income Groups (in Rs.)	1966-67				1968-69				1969-70			
	Annual per capita Income (Rs.)	Direct	in-direct	Total	Annual per capita Income (Rs.)	Direct	In-direct	Total	Annual per capita Income (Rs)	Direct	In direct	Total
All Groups	604.07	1.326	3.72	4.96	628.78	.869	3.42	4.29	660.94	.877	3.56	4.45
Less than 50	179.69	.161	5.83	5.83	145.46	.126	7.62	7.75	248.33	.141	6.04	6.14
50 – 99	297.53	.118	4.08	4.20	320.56	.081	3.50	3.58	338.98	.096	3.71	3.80
100 – 149	352.17	.203	4.03	4.23	370.20	.171	3.60	3.77	404.85	.186	3.92	4.10
150.199	421.10	.242	4.24	4.49	421.00	.201	3.59	3.79	456.96	.250	4.09	4.34
200.249	449.06	.342	4.25	4.59	482.60	.250	3.73	3.98	491.53	.270	3.97	4.24
250.299	535.50	.403	4.16	5.24	532.07	.246	3.64	3.89	534.82	.371	4.04	4.42
300 – 399	594.56	0.466	4.15	4.62	604.42	.382	3.51	3.90	624.79	.411	3.80	2.21
400 – 499	684.23	0.635	3.83	4.46'	722.66	.454	3.27	3.73	732.80	.424	3.68	4.11
500 – 749	880.28	.252	3.55	4.41	899.42	.673	2.94	3.61	945.32	.681	3.29	3.97
750 – 999	1147.79	1.085	3.10	4.18	1216.43	.993	2.80	3.80	1245.51	.848	2.79	3.64
1000 – 1499	1650.57	1.588	2.80	4.38	1697.74	1.650	3.10	4.66	1986.14	1.718	2.65	4.37
15000 – 1999	2406.12	1.813	2.44	4.26	2703.44	2.399	1.56	3.96	2330.52	2.882	2.11	3.99
2000 and above.	3875.71	7.735	1.83	9.57	4047.41	3.674	1.70	5.38	4884.50	3.123	2.38	5.50

Annual per capita Income (in Rs.)	1970-71 Tax %age of Income			Annual per capita Income (in Rs.)	1971-72 Tax %age of Income		
690.68	1.037	3.27	4.30	933.302	1.12	2.80	3.91
167.67	.053	3.97	4.02	149.00	.081	8.08	8.16
349.20	.072	3.44	3.51	383.400	.209	2.53	2.74
417.37	.134	3.77	3.91	406.086	.083	2.72	2.80
467.54	.232	3.76	3.99	469.282	.176	2.74	2.92
499.43	.255	3.71	3.97	521.365	.260	2.76	3.02
546.47	.389	3.73	4.12	549.539	.322	2.80	3.11
633.76	.381	3.60	3.98	619.982	.449	2.84	3.28
721.25	.394	3.41	3.80	705.088	.442	2.74	3.18
833.74	.599	3.27	3.87	835.186	.716	2.46	3.17
1250.37	1.394	2.57	3.97	1169.848	1.220	2.08	3.30
1677.34	1.411	2.71	4.12	1664.965	2.295	1.89	4.17
2637.22	2.971	2.20	5.13	2481.911	3.764	1.51	5.27
4732.11	5.199	2.30	7.50	4364.512	4.533	1.21	5.74

Source : / 19,20 /

PERCAPITA TAX AS PERCENTAGE OF INCOME FOR RURAL AREAS OF
PAKISTAN

Monthly Income Groups (in Rs.)	1966-67				1968-69				1969-70			
	Annual percapita income (in Rs.)	Tax %age of Income			Annual Percapita income (in Rs.)	Tax %age of Income			Annual Percapita Income (in Rs.)	Tax %age of Income		
		Direct	Indirect	Total		Direct	Indirect	Total		Direct	Indirect	Total
All Groups	425.06	.291	2.70	2.99	421.93	.081	2.03	2.11	446.51	.086	2.53	2.62
Less than 50	159.48	.097	5.54	5.64	228.74	.267	3.42	3.69	121.01	.310	6.19	6.50
50 - 90	260.66	.090	3.28	3.37	273.19	.104	2.69	2.80	288.65	.126	3.13	3.25
100 - 149	315.13	.071	2.63	2.70	332.93	.093	2.38	2.48	338.62	.101	3.07	3.17
150 - 199	375.10	.073	2.48	2.56	377.37	.074	2.17	2.24	396.65	.080	2.92	3.00
200 - 249	429.08	.090	2.45	2.54	436.13	.063	2.12	2.18	443.88	.102	2.53	2.63
250 - 299	480.77	.076	2.55	2.63	507.68	.055	2.04	2.09	478.91	.069	2.49	2.58
300 - 399	534.58	.149	2.27	2.42	521.71	.063	1.93	2.00	547.41	.063	2.28	2.34
400 - 499	605.61	.297	2.52	2.82	649.58	.044	1.77	1.81	685.99	.045	2.49	2.53
500 - 749	805.08	.096	2.53	2.63	701.70	.124	1.76	1.83	750.33	.067	2.17	2.24
730 - 399	955.53	.071	1.98	2.05	818.01	.082	1.93	2.01	1161.23	.030	1.89	1.92
1000 - 1499	2439.31	.083	1.39	1.47	24261.14	.008	0.99	1.00	1569.83	.082	1.71	1.79
1500 - 1999	2571.33	.893	2.18	3.07	2605.00	.027	1.40	1.43	1822.50	.023	1.28	1.31
2000 and above	5338.18	1.703	3.26	4.96	3763.20	.045	1.81	1.85	3390.71	.018	0.74	0.76

Annual percapita income (in Rs.)	1970 - 71 Tax %age of Income			Annual percapita income (in Rs.)	1971 - 72 Tax %age of Income		
	Direct	Indirect	Total		Direct	Indirect	Total
481.82	.351	2.27	2.63	485.028	.142	1.60	1.74
312.15	.122	2.94	3.06	170.357	.823	2.41	3.23
323.88	.103	2.62	2.72	316.761	.109	2.04	2.15
364.74	.101	2.59	2.69	349.981	.163	1.79	1.95
408.10	.104	2.39	2.50	393.645	.102	1.89	2.00
457.97	.121	2.39	2.51	447.020	.082	1.63	1.71
502.76	.079	2.16	2.30	479.541	.064	1.68	1.74
580.26	.090	1.92	2.01	528.421	.060	1.38	1.44
622.22	.031	2.26	2.29	615.000	.082	1.54	1.62
825.01	.079	1.72	1.80	771.680	.057	1.32	1.36
915.99	.086	1.76	1.85	876.092	.028	1.86	1.89
1688.25	.739	1.96	2.70	1438.344	.055	1.38	1.44
1808.89	.80	1.87	2.67	2823.896	.092	0.73	0.82
2149.23	2.18	2.93	5.11	2866.254	.130	1.16	1.29

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