Measuring the trend of consumption expenditure inequality in Pakistan

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Introduction

- Poverty and income inequality are one of the main issues in developing countries.

- Along side Poverty, Inequality one of the major problems faced by households in Pakistan.

- Consumption expenditure is considered as one of the best indicators of household welfare. (Cutler & Katz 1992).
Rational of the study

- The research intend to find out inequalities in Consumption expenditures among the households of Pakistan.
- The inequalities in consumption expenditures among households may differ across region and provinces.
- This study decomposes inequalities in consumption expenditures into Food and Non-Food at Household.
- The significance of Food and Non-Food consumption expenditure inequalities are useful to understand disparities among households based on their region and Province.
- This research contributes to examine the patterns of consumption expenditures portfolios at household level.
<table>
<thead>
<tr>
<th>S. No.</th>
<th>Article</th>
<th>Author</th>
<th>Journal &amp; Year</th>
<th>Methodology</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Trends in consumption-based poverty and inequality in the European Union during the 1980s</td>
<td>M. Asghar Zaidi &amp; Klaas de Vos</td>
<td>Journal of Population Economics. Published by Springer, June. 2001</td>
<td>Decile ratio, Gini coefficient, Theil index</td>
<td>During the 1980s, both poverty and inequality increased in Italy, France, the United Kingdom, Germany and Belgium, while decreases in both poverty and inequality are observed for Spain and Portugal. In Greece only inequality increased.</td>
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<td>3.</td>
<td>Growth and Sectorial Inequality in Pakistan</td>
<td>Talat Anwar</td>
<td>Pakistan Economic and Social Review. 2007</td>
<td>Gini Coefficient</td>
<td>Household head employed in Financing, Electricity, Manufacturing, and Community services faced high inequality</td>
</tr>
<tr>
<td>5.</td>
<td>Measurement and</td>
<td>Muhammad Idriss</td>
<td>Lahore Journal Of Gini Coefficient</td>
<td>Inequality increased in consump4tion expenditure</td>
<td></td>
</tr>
<tr>
<td>S. No.</td>
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<tr>
<td>5.</td>
<td>Measurement and Decomposition of Consumption Inequality in Pakistan</td>
<td>Muhammad Idress &amp; Eatzaz Ahmad</td>
<td>Lahore Journal Of Economics.</td>
<td>Gini Coefficient</td>
<td>Inequality in consumption expenditure in Pakistan improved slightly between 1992/93 and 2004/05, and that the extent of inequality in food consumption has remained substantially lower than in nonfood consumption.</td>
</tr>
<tr>
<td>6.</td>
<td>Income Inequality measurement in Pakistan and its four provinces by Lorenz curve</td>
<td>Hina Amir &amp; Kanwal Bilal</td>
<td>Journal of Asian Scientific Research.</td>
<td>Lorenz Curve, Gini Coefficient</td>
<td>There is also inequality among the per capita income of different provinces. Overall inequality in Pakistan appears to be almost exclusively due to inequalities within provinces.</td>
</tr>
<tr>
<td>7.</td>
<td>Growth and Consumption Inequality in Pakistan</td>
<td>MUHAMMAD Ali Asad &amp; Mehboob Ahmad</td>
<td>Pakistan Economic and Social Review</td>
<td>Gini Coefficient, Thiel index Quintiles</td>
<td>Consumption inequality was not stable, The poorest 20 percent and the middle 60 percent lost their consumption share, whereas the richest 20 percent gained their consumption share significantly in urban and rural sectors.</td>
</tr>
<tr>
<td>8.</td>
<td>Poverty, Income Inequality, and Growth in Pakistan: A Pooled Regression Analysis</td>
<td>Ahmed Raza Cheema &amp; Maqbool H. Sial</td>
<td>Lahore Journal of Economics</td>
<td>Gini Coefficient</td>
<td>The results show that growth and inequality play significant roles in affecting poverty, and that the effect of the former is substantially larger than that of the latter. Furthermore, growth has a significant</td>
</tr>
</tbody>
</table>
Model

- Gini coefficient, defined as the ratio of the area between the diagonal and the Lorenz curve to the total area of the half-square in which the curve lies (Todaro & Smith, 2002).

- Rao (1969) provided formula to calculate Gini coefficient which is also useful for measurement of consumption inequality.

\[ G = \sum_{i=1}^{n-1} (P_i q_{i+1} - P_{i+1} q_i) \]

- Pi is the cumulative population share and Qi is the cumulative consumption share corresponding to the ith household when all households are arranged in ascending order of consumption. (Rao, 1969)

- Sharrock (1982) provides the following source-decomposition of the Gini coefficient of income. The same procedure can be adopted for the allocation-wise decomposition of consumption inequality.

\[ G = \sum_{k=1}^{K} (S_K (C_K)) \]

- Here \( s_k \) is the consumption share of the component \( k \) in total consumption and \( C_k \) is the concentration ratio of the \( k \)th consumption component. The concentration ratio is the same as that of the Gini coefficient except that the ranking of households is by total consumption and not the \( k \)th consumption component.
Model & Data

- A good inequality measure usually has the following properties: (i) the Pigou-Dalton transfer principle, (ii) income scale independence, (iii) the population principle, (iv) decomposability, (v) well defined and interpretable limits, and (vi) symmetry. The Gini coefficient is one measure that fulfills all these conditions and is the most widely used measure of inequality. (Idrees & Ahmad, 2010)

- The data for this study has been taken from PBS which collects HIES data from households.

- We have utilized the latest available surveys of 2015-16 and 2018-19.

- These data sets comprises information on consumption expenditures for the households. This includes data on food and non-food expenditures of households and households are divided on basis of region and Province.

- The data is decomposed into food and non-food expenditures available in consumed quantity and value paid for it.
Data Visualization

Food Consumption Inequality

Non-Food Consumption Inequality

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### Food Consumption Inequality Gini Values

<table>
<thead>
<tr>
<th>Province</th>
<th>2015-16</th>
<th>2018-19</th>
<th>Province</th>
<th>2015-16</th>
<th>2018-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balochistan</td>
<td>0.259</td>
<td>0.337</td>
<td>Balochistan</td>
<td>0.426</td>
<td>0.391</td>
</tr>
<tr>
<td>Sindh</td>
<td>0.274</td>
<td>0.318</td>
<td>Sindh</td>
<td>0.500</td>
<td>0.443</td>
</tr>
<tr>
<td>Khyber Pakhtunkhwa</td>
<td>0.306</td>
<td>0.514</td>
<td>Khyber Pakhtunkhwa</td>
<td>0.492</td>
<td>0.459</td>
</tr>
<tr>
<td>Punjab</td>
<td>0.315</td>
<td>0.481</td>
<td>Punjab</td>
<td>0.496</td>
<td>0.456</td>
</tr>
</tbody>
</table>

### Non-Food Consumption Inequality Gini Values

<table>
<thead>
<tr>
<th>Province</th>
<th>2015-16</th>
<th>2018-19</th>
<th>Province</th>
<th>2015-16</th>
<th>2018-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>0.305</td>
<td>0.448</td>
<td>Rural</td>
<td>0.472</td>
<td>0.420</td>
</tr>
<tr>
<td>Urban</td>
<td>0.293</td>
<td>0.425</td>
<td>Urban</td>
<td>0.479</td>
<td>0.447</td>
</tr>
<tr>
<td>Overall Gini</td>
<td>0.308</td>
<td>0.442</td>
<td>Overall Gini</td>
<td>0.499</td>
<td>0.453</td>
</tr>
</tbody>
</table>

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Findings

➢ This research shows the existence of consumption expenditure inequalities among the households of Pakistan.

➢ The Results show that overall food consumption expenditure inequality increased over the course of last two surveys.

➢ Food Consumption expenditure inequality in Rural areas was higher compared to urban areas.

➢ Punjab faced the highest level of food Consumption expenditure inequality in 2015-16 and KPK in 2018-19.

➢ The Overall non-food consumption expenditure inequality decreased over the course of last two surveys.

➢ Non-Food Consumption expenditure inequality in Urban areas dominated inequality in Rural areas.

➢ Sindh observed the highest level of Non-food consumption expenditure inequality in 2015-16 and KPK in 2018-19.
Conclusion & Recommendations

- This research shows the existence of consumption expenditure inequalities among the households of Pakistan.

- It was observed consumption expenditure inequality was high in non-food consumption expenditure than food consumption.

- To reduce Consumption inequality Government needs to provide subsidies on food items and reduce inflation.

- Progressive Tax rates and redistribution of resources towards poor households can decrease consumption inequality.

- Government need to include more households through Ehsaas Program or through the network of utility stores to start new Food programs to support the poor as it will reduce the gap between rich and poor.
Limitations of the study

- Further decomposition of inequalities can be done/conducted by further dividing each groups in sub-groups like Apparels, Fuel & Lightening house rent etc.

- One can find consumption inequality by looking at household head’s employment sector.