

Spatial Analysis of Relative Poverty: A Case Study of Slum Areas of Karachi

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ARTICLE DETAILS	ABSTRACT
<p>History Received: 31 December 2022 Revised: 03 June 2023 Accepted: 13 June 2023 Published: 30 June 2023</p> <hr style="width: 20%; margin-left: 0;"/> <p>Keywords <i>Relative Poverty</i> <i>Absolute Poverty</i> <i>Spatial Analysis</i> <i>Logit Model</i> <i>Poverty Alleviation</i></p> <p>This is an open-access article distributed under the Creative Commons Attribution License4.0</p> 	<p>Purpose This study aims to explore the reasons for the existence of relative poverty in Karachi, a metropolitan city in Pakistan.</p> <p>Methodology A self-administered survey was conducted on 375 households in eight, major slum areas in Karachi (Orangi Town, Manghopir, New Karachi, Surjani Town, Bangali Para Gulshan, Lyari, Malir, and Korangi). Logistic regression was used for the data analysis.</p> <p>Findings The results confirm that secondary education for males, the uneducated males, the bread-winning members, and children having no education significantly impacts the dependent variable, i.e., total family income. Whereas, tertiary education of children, secondary education of children, tertiary education of male households, and house possession have no impact on total family income. The result of Andrews and Hosmer-Leme confirms that the model is a good fit.</p> <p>Conclusion The study concludes that the basic cause of relative poverty is unequal access to education, a highly dependent population, and low-earning members. Unequal access to housing facilities is another significant factor that needs to be assessed.</p>

1. Introduction

Poverty is a multifaceted phenomenon that is linked to several social and economic factors, such as household size, education level, remittances received, gender, and the work status of the household head. (PIDE, 2021). One of the two criteria for measuring poverty is one in its absolute term, where household income is insufficient to afford essential human necessities i.e., food, shelter, clothing, etc. In other words, it refers to the number of people living below the poverty line. While the term relative poverty means individuals have resource deficiency compared to other members of society. In other words, relative poverty refers to a condition in which the income of an individual or group is insufficient to maintain the average standard of living in the society in which they live. (Foster, 1998). Relative poverty varies across countries. Karachi suffers from a huge social deficit in the existence of contrast wealth possession (Bokhari, 2017)

Karachi is the biggest city in Pakistan and the capital city of Sindh province. There are more than 600 slum areas in Karachi. The average monthly salary of a person working in Karachi is 88300 PKR. The salary ranges from the lowest average of 22,300 PKR to the highest average of 394,000 PKR, Pakistan Economic Survey (2020). This huge difference in income confirms the existence of relative poverty in the city. The existence of Relative poverty is the main reason behind the increasing crime and ratio of suicide in the city. This research has been conducted to find the cause behind this huge income inequality in the city. This research would help policymakers to alleviate the factors responsible for this inequality.

Karachi is divided into five district zones: Karachi Central, Karachi East, Karachi West, Karachi South, and Malir District. Karachi Central is an administrative district of the Karachi division in Sindh. It is located in the central part of Karachi. According to the Pakistan Bureau of Statistics 2023 official report, Karachi Central is the most heavily populated area of Karachi with a population of 3.442 million. Two major slum areas or kaachi abadis in this district are New Karachi and Surjani Town. Karachi East district has a population of 3.171 million. (Pakistan Bureau of Statistics 2023 official report). The less privileged area of this zone is located in Bangali Para Gulshan. According to the Pakistan Bureau of Statistics 2023 official report, the population of Karachi West is 2,275 million. Manghopir and Orangi town are the two major slum areas of this district. Malir district has a population of about 2.217 million. Having the least population of about 1.824 million people among other districts Karachi South has its major slum area located in Lyari.

Malir district despite being the political hub of the Pakistan People's Party (PPP) the majority of its residents are facing problems such as a shortage of clean drinking water, overflowing drains, shortage of hospitals and maternity homes, etc. The United Nations Food and Agriculture Organization (FAO) reported that 75% of the population in slum areas of Malir lived in extreme poverty. Korangi despite being the industrial hub, is always ignored by the government. The area from the beginning faced a shortage of electricity, gas, water, and drainage problems.

Orangi Town is considered one of the world's biggest slum areas. Over 2.4 million people reside in this slum area. It has been established almost 20 years ago. Unlike many other slums across Karachi, Orangi Town does not hold a notorious reputation for poverty but indeed, people in Orangi Town do have to deal with a lack of basic amenities. Shortage of water is one of the most dominant issues in Orangi Town. According to the FPCCI report presented at the 52nd public awareness seminar on "Saving Water and Environmental Sustainability", the poor quality of water is responsible for 40 percent of deaths in Pakistan and a dominant cause of child mortality. Manghopir is one of the less privileged areas of

Karachi, named after Sufi Syed Sakhi Sultan. Manghopir is mostly inhabited by one of Pakistan's smallest ethnic communities i.e., Makrani, but there are other ethnic groups also residing like Punjabis, Kashmiris, Seraikis, Pakhtuns, Balochis.

Lyari is the home of the majority of Kutchi-speaking people. A large number of Baloch migrants from the Iranian portion of Balochistan settled in the Lyari soon after Karachi was developed under British rule. Bangali Para Gulshan is the home of Bangladesh migrants called Bengalis. More than two million Bangladesh migrants living in Karachi. Whereas, a diverse population resides in both New Karachi and Surjani. The significance of this study is that it covers all the factors and areas that have been neglected in the previous research.

Reviewing the earlier literature, it is observed that the majority of the analysis on poverty is conducted taking absolute poverty into consideration (Lakner, 2022; Afzal & et al., 2021; Mangi & et al., 2020; Ali, 2018; Bokhari, 2017; Miankhail, 2009). However, a few researches were conducted to examine relative poverty, which is the economic inequality that exists in the location or society in which people live (Kissack, 2023; Ferreira, 2022; Bashir, 2018; Hyder, 2010; Zaidi, 1992).

The objective of this research is not only to confirm the existence of relative poverty in the metropolitan city of Karachi but also to identify the factors that cause such huge income disparity. The study also fills the gap present in existing literature related to poverty.

The study divides into the following sections. First, the introduction, literature review, methodology, data analysis, and conclusion which includes limitations, direction for future research, and implications.

2. Literature Review

Reviewing the literature on poverty, it was observed that almost all studies used absolute poverty as a criterion for measuring poverty. Also, there is very little work done at disaggregated levels or in an area-specific analysis because most research is based on country-specific data. Therefore, the lack of literature on spatial analysis of poverty drove us to fill this existing gap of literature.

According to the World Bank report (2019), Pakistan should put equity at the center of the development process to become the top 10 economies in the world before 2047. The proportion of Pakistanis living in poverty has decreased over the past 20 years, dropping from 61.6% in 1998-1999 to 21.5% in 2018-2019. It fell from 47.4% to 10.7% in urban areas and, over the same period, from 67.5% to 27.6% in rural areas (PIDE, 2021). Correlates of poverty show that education can be a major factor in determining poverty. Spending on education is considered an investment in human capital. Many developing countries like Pakistan have a low level of investment in education. Acquiring education helps individuals to overcome their state of destitution. It also helps them, to guide other family members in a better fashion to improve their poverty state. Bashir (2018) examines the result biasness of different poverty measures and declares region-specific poverty measures more appropriate than a single poverty line, as it covers all the region's price variation and consumption patterns.

Lakner & et al., (2022) simulated global poverty scenarios from 2019 to 2030 using data from 166 countries, or 97.5% of the world's population, under a variety of growth and inequality assumptions. The simulations predict that in 2030, there will still be more than 600 million extremely poor people (living on less than \$1.90 per day), giving rise to a

global extreme poverty rate of 7.4%. This is assuming that within-country inequality remains unchanged and that GDP per capita grows by World Bank projections and historically observed growth rates. The results indicate that the global poverty rate might drop to about 6.3% in 2030, which would mean 89 million fewer people living in extreme poverty if the Gini index in each nation lowers by 1% annually. Ferreira (2022) who sought to offer a unique analysis and assessment of the key stylized facts relating to poverty, inequality, and growth, used the premise that these three ideas are interrelated and dependent on one another as a starting point. According to a study, regional and worldwide trends in poverty are much more diverse than is frequently believed in public discourse. It should be noted that while fewer people in the developing world are truly poor—those living below the \$1.90 per day—there are also more people who, by the norms of their nation of residence, are still regarded to be poor.

Afzal & et al., (2021) experimentally showed that changes in political regimes, media openness, and foreign aid have all contributed to reducing poverty in the nation using ADL/VAR and Granger causality tests. Regardless of the motivation, the report concludes that the transition to a stable democratic regime has made it easier to supply social services. Additionally, it discovers that a more equitable distribution of social services is the result of the free flow of information through the media, which has raised people's understanding of their rights. By concentrating on specific programs for various groups with the cooperation of various international organizations, foreign aid has also helped to reduce poverty. Mangi & et al., (2020) examined the development progress in two metropolitan cities (i.e., Beijing and Karachi) through urban sustainability indices of each city and then compared the results of both metropolises. An index system considering 36 indicators based on social, economic, and environmental aspects was developed for this purpose. Results revealed that Beijing's developmental progress is much better than Karachi's in terms of socioeconomic and environmental development, but there is still a need for improvement.

Ali (2018) studied the determinants of poverty in Pakistan by examining five macroeconomic variables, including government expenditure, unemployment rate, inflation, budget deficit, and exchange rate. The researcher used time series evidence from 1995-2013. The result of Ordinary Least Square confirmed that government expenditure, exchange rate, and budget deficit are inversely associated with poverty. While unemployment has a positive relation with poverty. The association between inflation and poverty is both direct and inverse. According to Murtaza (2018), Pakistan does not have a clear and systematic technique for measuring poverty, which leads to varying poverty estimates with different patterns and trends. To study poverty in Pakistan, a clear, organized technique was established, along with poverty comparisons. The study found that both nationally and across all provinces, poverty is much higher in rural areas than in urban ones. Although Balochistan appears to have the highest prevalence of poverty, Punjab has the majority of the impoverished.

One of the new issues being discussed and contested in both rich and developing nations, including Pakistan, is poverty. This paper examines the causes of poverty in Pakistan and explains the theoretical connections between that condition and the primary macroeconomic forces that influence it. For this, multiple diagnostic tests have been used in conjunction with the Johansen co-integration technique. The ratio of agriculture to gross domestic product (GDP), the ratio of foreign direct investment (FDI) to GDP, the ratio of primary education, the ratio of domestic credit to the private sector, and the military expenditure as a share of GDP are the macroeconomic variables used in this study. The study's findings indicate that each of these factors significantly affects poverty. When it

comes to the agricultural GDP ratio, a rise in agricultural output results in poverty reduction. Long-term, education enrolment has a considerable detrimental effect on poverty. It assists in lowering poverty and enhancing both the socioeconomic standing of the individual and the society. However, military spending has a big good influence on poverty in Pakistan whereas domestic lending has a significant negative impact as well (Akhter & et al., 2017)

Ashraf (2017) aims to analyze the effectiveness of social policies in poverty reduction and describe the rural-urban disparity as an important factor of poverty in Pakistan. The study suggested a set of government policies including the development of new industries, the development of an institution that advocates the formation of knowledge, engaging local institutions in local development, etc. to alleviate poverty. Bokhari (2017) describes the reason behind Karachi's suffering from a huge social deficit as the existence of contrast wealth possession, with expanding middle class with relatively stark poverty. Due to the absence of low-cost housing, the city is suffering from expanding slums, as the population is increasing due to internal migration. The city is also suffering from a shortage of water supply, which is created by tanker owners.

Idrees (2017) realizing the failure of using a single poverty line for the entire state, estimated different poverty lines for the rural and urban segments of each province and region. Except for Pakistan's capital city of Islamabad, its estimated food, nonfood, and overall poverty lines reveal that the urban poverty line is greater in every region. Except for the Islamabad Capital Territory, assessments of poverty reveal that in every region, rural poverty is significantly higher than urban poverty. The study also discovered that 25% of urban households and over 37% of rural households are below our defined poverty levels. The study also reveals that when poverty is assessed in terms of households, household size is ignored, which inflates poverty rates.

Zahra (2016) indicated social exclusion and discrimination regarding gender, caste, and religion in the labor market as a cause of urban poverty. The survey is conducted on marginalized labor force based on gender and religion (minorities, women, transgender). The study makes use of logit modeling to examine how social exclusion and other factors affect the labor force participation of the marginalized class and to assess how that involvement affects the poverty condition of marginalized households. Findings show a significant impact of social ostracism on poverty and labor force participation. Deaton (2015) introduced the idea of measurement of well-being, especially of the poor, as an integrated tool to fight against poverty. Hyder (2010) grouped the population of Pakistan into four categories: extremely poor, vulnerable, non-poor, and poor; discussed the demographics, residential and compositional characteristics of each category. A multinomial logit model is estimated for this purpose. The report is based on two national surveys: the Federal Bureau of Statistics 2001–2002 Pakistan Integrated Household Survey and its 2004–2005 Pakistan Social and Living Standards Measurement Survey. The results declared that poverty is higher in rural areas as compared to urban areas. The study also indicated education and employment as an important factor in poverty reduction. Miankhail (2009) discussing the root, and ramifications of poverty in Pakistan directed the attention towards the factors such as lack of good governance, high inflation rate, trade deficit, corruption, uneven distribution of resources, etc. Further evaluation suggests the improvement in human capital through increasing literacy, skill development, and social justice can alleviate poverty in Pakistan.

Anwar (2005) criticized the results of an earlier research by Zaidi (1992) that used identical poverty lines for both urban and rural regions and declared the results misleading. His

study took into account the differences in food prices between rural and urban regions and concluded that the ratio of poverty is highest in Sindh and Khyber Pakhtun Khwa while Balochistan and Punjab are among the lowest. It is also found that 40.3% of all people in the nation lived in poverty in 2001–02. According to the findings, there were 60 million impoverished people in Pakistan, of whom 46.1 and 14.4 million lived in rural and urban regions, respectively. As per relative poverty trends, the rate of poverty increased from 34% in 1984–1985 to 40% in 2001–2002. Because of the worsening of the income distribution throughout this time, the trends revealed by relative poverty suggest an increasing trend that is happening more quickly. As a result, over the aforementioned period, relative poverty grew more quickly than absolute poverty.

Zaidi (1992) operationalizing the concept of relative poverty, estimated the incidence of poverty at both national and provincial levels. Results of the cross-sectional comparison of poverty in four provinces of Pakistan and aggregate level poverty discover that 39% of households are poor when poverty is calculated based on expenditure. While poverty incidence is higher i.e., 43% on income base poverty line. The estimation also indicated that Khyber Pakhtun Khwa and Sindh are the least while Punjab and Balochistan are the poorest provinces in Pakistan.

Reviewing the earlier literature, it was found that in the majority of the research, poverty was measured in its absolute sense. Hence, there is a huge gap exist in the literature to apprehend poverty in a relative sense. Going through the above literature, various factors are being identified that are vital to determine the relative poverty, i.e., unequal access to education, high level of dependent population and low level of earning members, and unequal access to housing facilities, etc.

3. Methodology

For spatial analysis, the city is divided into five district zone: Central, East, Karachi West, South, and Malir District. For Karachi East district the area taken under study is Bangali Para Gulshan, for Karachi West data is collected from Orangi town and Manghopir. For Karachi Central New Karachi and Surjani town were considered. Lyari area is considered for analyzing poverty in Karachi South while both Malir and Korangi were included in the survey of the Malir district. Data for this cross-section study has been collected by surveying 375 individuals from eight major slum areas of five districts of Karachi. A poverty survey questionnaire has been modified to extract information about the income, consumption, education, and problems faced by the people living in these areas. Interviews of seventy-five individuals from each district kaachi abadis have been conducted. Multinomial logistic regression has been employed for estimation. Logistic regression also called a logit model, is used to model dichotomous outcome variables. In the logit model, the log odds of the outcome are modeled as a linear combination of the predictor variables (Hyder, 2010 & Zahra, 2016).

4. Results and Discussions

Table.1. Survey Results

	Karachi Central	Malir District	Karachi West	Karachi East	Karachi South
Average No. of Family Members	5.39	5.95	5.93	6.21	6.13
Average No. of Dependent Members in Family	4.15	4.52	4.57	4.67	4.77

Average No of Children in Family	3.24	2.61	3.23	3.53	2.97
Average Monthly Income	20771	18587	16957	17533	19680
Average Monthly Electricity Bill Expense	2370.67	2802.67	2582.67	2161.33	2526.67
Average Monthly Expense on Gas	516.67	441.33	408.77	474	410
Average Monthly Expenses on Food	8454.67	7926.67	7920	9553.33	8505.33
Average Monthly Expenses	16820.03	16660	16568.77	18628.67	17755.33
Own Asset (House)	25 33.33%	24 32%	23 30.66%	18 24%	20 26.66%

Source: Author's own elaboration

The average number of family members in Karachi Central District is 5.39, while it is 5.95 in Malir District. In Karachi West, the average number of family members is 5.93, while in Karachi East and Karachi South, it is 6.21 and 6.13 respectively. The result indicates that the average number of family members is highest in Karachi East district and lowest in Karachi Central district. The average number of dependent members in the family is 4.15 in Karachi Central, 4.52 in Malir District, 4.57 in Karachi West, 4.67 in Karachi East, and 4.77 in Karachi South. Hence, it can be concluded that the dependency ratio is maximum in Karachi South and minimum in Karachi Central.

The average number of children per family in Karachi Central District is 3.24, while it is 2.61 in Malir District. In district Karachi West, this average is 3.23, while in districts Karachi East and Karachi South, it is 3.53 and 2.97 respectively. The average number of children per family is highest in Karachi East district and lowest in Malir District. The average monthly income in Karachi Central district is 20771, whereas the average monthly income in Malir District, Karachi West, Karachi East, and Karachi South is 18587, 16957, 17533, and 19680 respectively. It has been found that the average monthly income is highest in Karachi Central and lowest in Karachi West.

The average monthly electricity bill expense in Karachi Central district is 2370.67. In Malir district this expense is highest among other districts that is 2802.67. The average monthly electricity bill expense in Karachi West is 2582.67, while in Karachi East district it is the lowest with an average of 2161.33. The average monthly electricity bill stands at 2526.67 in district Karachi South. The average monthly expense on the gas bill is the maximum in Karachi Central district which is 516.67. In the Malir district, this expense is 441.33. The average monthly expense on gas bills in Karachi West is 408.77, which is the lowest, while in Karachi East district this average is 474. The average monthly gas bill stands at 410 in district Karachi South.

Survey results indicate that food expenses are highest in Karachi East with an average of 9553.33, while it is lowest in Karachi West with an average of rupees 7920. The average food expense in Karachi Central is rupees 8454.67, while this expense is 7926.67 rupees in Malir District. In Karachi South, the average expenses for food are 8505.33. Average monthly expenses are highest in Karachi East with an average of 18628.67, while it is lowest in Karachi West with an average of rupees 16568.77. In Karachi Central, Malir District, and Karachi South District the average monthly expenses are 16820.03, 16660, and 17755.33 respectively.

Survey demographics show that only 33.33% population has their own house in Karachi Central, while in the Malir district, this percentage is 32%. In district Karachi West 30.66% population owns a house, while in Karachi East only 24% population has a house

possession. The percentage of the population having their own house in district Karachi South is 26.66%.

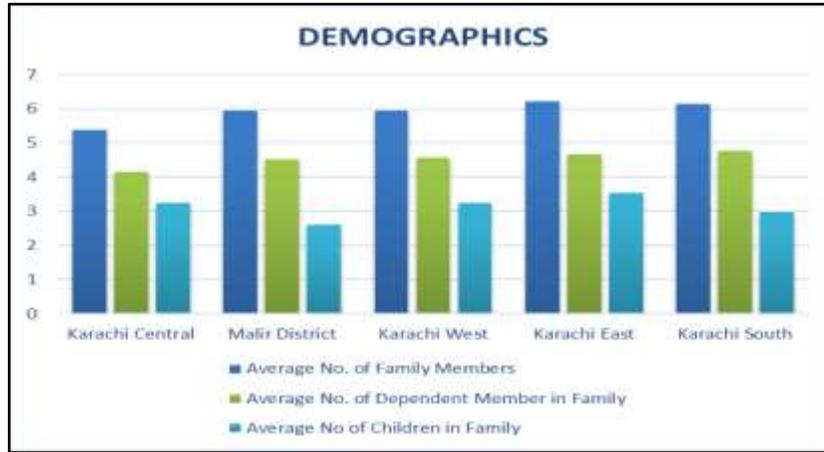


Figure.1. Demographics
Source: Author’s own elaboration

Figure 1 shows the demographic comparisons of the number of family members, number of dependent members in the family, and number of children in the family, among all five districts of Karachi. The figure indicates that the average number of family members is highest in Karachi East district and lowest in Karachi Central district. It also shows that the dependency ratio is maximum in Karachi South and minimum in Karachi Central. The figure also demonstrates that the average number of children per family is highest in Karachi East district and lowest in Malir District.



Figure.2. Household Expenses District Wise
Source: Author’s own elaboration

Figure 2 presented the comparisons of the expenses on food, electricity, and gas between the households of District Karachi Central, Malir District, District Karachi West, District Karachi East, and District Karachi South. The average monthly electricity bill expense in Malir district this expense is the highest among other districts while in Karachi East district it is the lowest. The average monthly expense on the gas bill is the maximum in Karachi Central district whereas, in Karachi West, it is the lowest. Figure 2 also indicates that food expenses are highest in Karachi East while it is lowest in Karachi West.

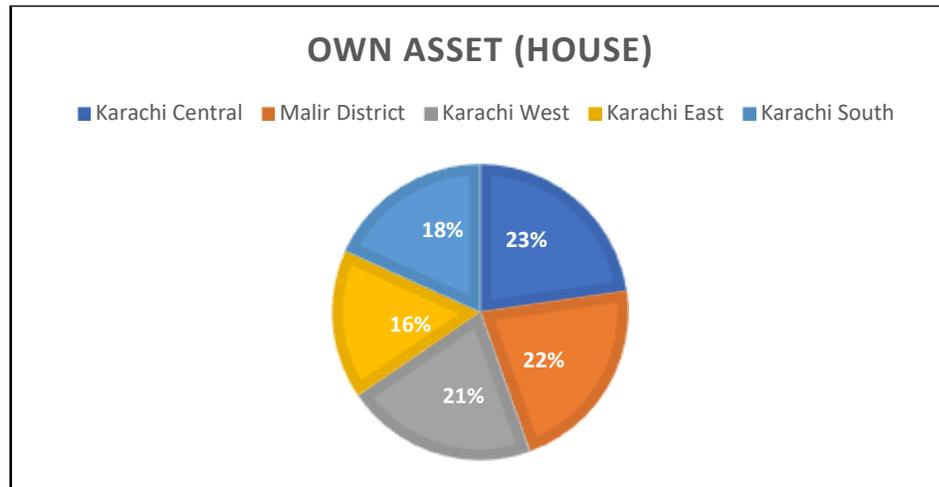


Figure.3. House Ownership District Wise
Source: Author’s own elaboration

In Figure 3 the Pie Chart displayed the different percentages of the population that own asset (house) in all five districts of Karachi. From Figure 3 it can be easily evaluated that the highest percentage of the population own asset in District Karachi Central. While Karachi East has the lowest percentage of the population that owns asset. Figure 4 is an income expenditure comparison between District Karachi Central, Malir District, District Karachi West, District Karachi East, and District Karachi South. It is obvious from Figure 4 that the average monthly expenses are highest in Karachi East and it is lowest in Karachi West. However, the average monthly income is highest in Karachi Central and lowest in Karachi West.

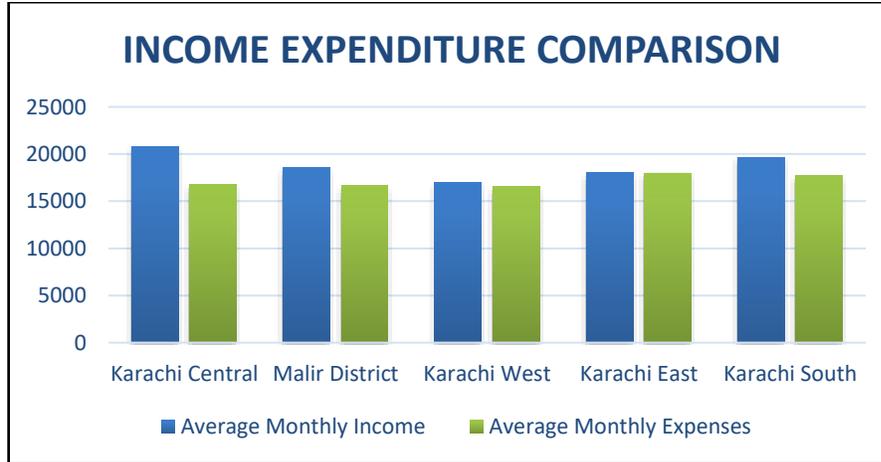


Figure: 4. Income Expenditure Comparison
Source: Author’s own elaboration

4.1. Model and Estimation Result

The dependent variable is income. The independent variables are the education of male members of the household, education of children (under 18) in the household, asset possession, and number of earning members in the household. SEM refers to secondary education males, TEM refers to tertiary education males, and NOEM means males having no education. NEM refers to the number of earning members. AST refers to a household owning a house while zero is assigned for otherwise. SEC refers to the secondary education

of children, TEC refers to the tertiary education of children, and NOEC means children having no education. TFI refers to total family income.

$$TFI_i = \beta_0 + \beta_1 NOEM_i + \beta_2 TEM_i + \beta_3 SEM_i + \beta_4 NEM_i + \beta_5 AST_i + \beta_6 NOEC_i + \beta_7 TEC_i + \beta_8 SEC_i + \mu_i \dots \dots \dots (1)$$

Table.2. Logistic Regression Result

Variable	Coefficient	Std. Error	Z-Statistic	Probability
NOEM	1.223	0.310	3.939	0.000
TEM	-0.399	0.368	-1.084	0.279
SEM	1.460	0.304	4.808	0.000
NEM	-0.324	0.161	-2.019	0.043
AST	0.312	0.279	1.119	0.263
NOEC	0.691	0.305	2.267	0.023
TEC	0.716	1.103	0.649	0.517
SEC	0.515	0.281	1.834	0.067
Mean dependent variable		0.744	S.D. dep var	0.437
S.E. of regression		0.433	AIC	1.142
Sum squared residual		68.733	SC	1.226
Log-likelihood		-206.159	HQC	1.175
Deviance		412.319	Restr. deviance	426.625
Avg. log-likelihood		-0.549	Total Obs	375
Dependent Variable	Total Family Income TFI <22300			
	Obs with Dep=0			96
	Obs with Dep=1			279

Source: Author’s own elaboration

Table.3. Coefficient Confidence Intervals

Variable	Coefficient	90% CI		95% CI		99% CI	
		Low	High	Low	High	Low	High
NOEM	1.223	0.711	1.735	0.613	1.833	0.419	2.027
TEM	-0.399	-1.006	0.208	-1.122	0.325	-1.351	0.554
SEM	1.460	0.959	1.961	0.863	2.058	0.674	2.247
NEM	-0.324	-0.589	-0.059	-0.639	-0.008	-0.739	0.092
AST	0.312	-0.148	0.773	-0.237	0.861	-0.410	1.035
NOEC	0.691	0.188	1.194	0.092	1.290	-0.098	1.480
TEC	0.716	-1.104	2.535	-1.454	2.885	-2.141	3.572
SEC	0.515	0.052	0.978	-0.037	1.067	-0.212	1.242

Source: Author’s own elaboration

Table.4. Goodness-of-Fit Evaluation for Binary Specification

Quantile of Risk		Dep=0		Dep=1		Total Observations	H-L Value
Low	High	Actual	Expect	Actual	Expect		
0.202	0.419	22	24.635	15	12.365	37	0.844
0.419	0.548	9	19.522	29	18.478	38	11.662
0.569	0.693	7	13.551	30	23.449	37	4.996
0.696	0.711	9	11.192	29	26.808	38	0.609
0.711	0.757	17	9.674	20	27.326	37	7.512
0.757	0.757	8	9.235	30	28.765	38	0.218
0.757	0.804	9	8.075	28	28.925	37	0.136
0.804	0.831	8	6.806	30	31.194	38	0.255
0.831	0.860	2	5.907	35	31.093	37	3.075
0.861	0.922	5	4.478	33	33.522	38	0.069
Total		96	113.075	279	261.925	375	29.376

H-L Statistic	29.376	Prob. Chi-Sq (8)	0.0003
Andrews Statistic	66.425	Prob. Chi-Sq (10)	0.0000

Source: Author's own elaboration

The estimation result confirms that variables like secondary education male with a coefficient of 1.460, no education male with a coefficient of 1.223, number of earning members with a coefficient of -0.324, and no education of children with a coefficient of 0.691 have a significant impact on the dependent variable i.e., total family income, which is consistent with the findings of (Ashraf, 2017; Ali, 2018). Whereas, tertiary education of children with a coefficient of 0.716, secondary education of children with a coefficient of 1.460, tertiary education of male households with a coefficient of -0.399, and house possession with a coefficient of 0.312 have no impact on total family income, which contradicts the findings of Bokhari (2017). The result of Andrews and Hosmer-Lemeshow Tests confirms that the model is a good fit.

5. Conclusion

The objective of this study is to evaluate the causes behind the existence of relative poverty in the metropolitan city of Karachi. To achieve this objective, a self-administrated survey has been conducted on 375 households in eight, major slum areas in Karachi (Orangi Town, Manghopir, New Karachi, Surjani Town, Bangali Para Gulshan, Lyari, Malir, and Korangi). The Logistic regression result confirms that the basic cause of relative poverty is unequal access to education, high level of dependent population, and low level of earning members. Unequal access to housing facilities is another significant factor that needs to be assessed.

5.1 Limitations and Direction for Future Research

In this research, data has been collected from 375 households in eight major slum areas in Karachi. Data from slum areas other than Orangi Town, Manghopir, New Karachi, Surjani Town, Bangali Para Gulshan, Lyari, Malir, and Korangi were not taken due to survey limitations. A more comprehensive research can be performed by extending the survey. The study can also be extended to the country level, which would help analyze the causes of income inequality and deep-rooted poverty throughout the country. In this study logistic regression was used for analyzing the data. The research can be replicated using other techniques of data analysis.

5.2 Implications

The main cause of relative poverty and income inequality is the unequal education system in the city. The findings of this paper are likely to support improving the strategy, management, and execution of poverty alleviation programs. The results confirm that various approaches to poverty eradication are rather complementary and required to be implemented simultaneously for a complete poverty alleviation drive. However, in relative terms, features like good governance, and supporting organizations are needed. In order to address multi-dimensional poverty an integrated and multi-dimensional poverty alleviation approach is needed (Singh, 2020). The Government should provide free education facilities and should maintain a single syllabus throughout the country. The concerned authorities should maintain proper checks and balances in public schools. Government teachers should be provided with updated training so everyone gets equal education and hence, equal opportunity in life. Along with educational institutes, the government should also open some skill development centers or technical training institutes to fulfill urgent needs. Government should foster institutions for the poor to reduce inequalities and

enhance sustainably as well as resilient livelihood opportunities to support households to graduate out of poverty. Government should provide equal work opportunities and security to the female labor force to reduce the ratio of dependent population ratio. The government should control internal migration and provide employment and facilities throughout the country.

Author Contributions

Dr. Nooreen Mujahid: Conceptualization, formal analysis, and reviewing. Amber Hasan: Results estimation, tabulation of data, response to reviewers' comments.

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Conflicts of Interest

The authors declare no conflicts of interest.

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