

RESEARCH ARTICLE



What is Happening to the Social Development Down to the Household Level?

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Abstract

This research aimed to investigate the relationship between macroeconomic changes and their impact on the household in Pakistan. The study utilized panel data constructed from various issues of HIES surveys conducted by the Pakistani Government. As per established practices, Fixed Effects and Random Effects models were used for estimation. Before applying the econometric techniques, univariate analysis is undertaken to understand the impact of macroeconomic variables on microeconomic variables like health, education, and food expenditures at the household level. Empirical estimation concludes the macroeconomic impact on household expenditure on health, education, and food, and the result is in line with the prior studies of like-wise countries and Pakistan. It indicates that the downfall in Pakistan's social development is the result of the Government's unwillingness to spend more on these sectors. Macroeconomic stability remained the focus area, undoubtedly leading to impressive growth rates, but its trickle-down was never taken care of.

KEYWORDS

HIES, Pakistan, GDP, Social Development, Household, Health, Education, Economic Growth, Fixed Effect, Random Effect)

1 | INTRODUCTION

Before the 1970s, the concept of development was primarily synonymous with economic development, with a focus on achieving rapid gains in overall and per-capita Gross National Product (GNP) growth. The prevailing belief was that such economic growth would naturally "trickle down" to benefit the broader population through the creation of jobs and improvements in economic and social well-being. During this period, issues such as poverty, unemployment, income distribution, and disparities in income and expenditure were considered secondary concerns compared to the imperative of achieving economic growth (Todaro, 2001). However, the experience of the 1950s and 1960s revealed that despite many third-world nations achieving their economic growth targets, the overall standard of living for the masses did not improve significantly (Ajaz et al., 2014). This realization indicated that there were inherent flaws in this narrow definition of development. Consequently, beyond the 1970s, there was a paradigm shift in the understanding of development. In short, beyond the 1970s, development

was redefined, and the main task assigned to the development process was to eliminate poverty, reduce disparities, and make income distribution more pro-poor (Ali et al., 2014). So, social development entered directly into economic development by considering individuals.

Scholars like Wheeler (1980), Ram (1985), Dasgupta & Weale (1992), and Sen (1994), among many others, found that quality of life indicates being much better in more prosperous nations. It is least disagreed that social infrastructure, such as education and health facilities, provide that very ground to the individual, which helps to actualize their full potential. Any realistic analysis of the development process necessitates supplementing strictly economic variables such as income, prices, and saving rates with equally relevant noneconomic social factors, including the size, distribution of income, development of social institutions, and education & health systems (Ashraf et al., 2017). Pakistan's development history is an astonishing paradox, showing impressive economic growth rates for the last seventy years but abysmal

social development (Zaidi, 2015). This paradox becomes more complex when researchers say that this remarkable economic growth was experienced without the social sector's support; interestingly, this growth did not trickle down in the form of social development (Butt et al., 2019).

In Pakistan, a staggering 25.02 million boys and girls between the ages of 5 and 16 are currently not enrolled in school. Even more concerning is the fact that the proportion of out-of-school children (OOSC) tends to increase as the level of education rises. At the higher secondary level, almost 85% of children are not attending school. (Alif Ailaan 2015). On the other hand, the health conditions in Pakistan are also not so good. After Afghanistan, Pakistan is the second country that does not control Polio in the country, and the cases are increasing day by day. Around 23% of the country's population has no access to health facilities in the 21st century. According to the 2011 National Nutrition Survey, the rates of child stunting in Pakistan have remained unchanged since 1965. Approximately 45% of children are stunted, and 16% of Pakistani children under the age of five are suffering from acute malnutrition (Bilal et al., 2024).

From the data sets collected and presented by UNDP and some other international organizations, Pakistan's performance in the social sector may be compared. The comparison can be summarized as follows;

- a. Pakistan's human and socio-economic profile for 1993-2012 looked more like an African than a South East Asia country.
- b. All the countries mentioned in the sample show their per-capita income for 1993-2012, but Pakistan's income rose slightly.
- c. The literacy rate of Pakistan was abysmally meager compared to other countries with better literacy rates.
- d. Pakistan's performance in the health sector is relatively better, but this can be in trouble in the future as the country's population increases rapidly.
- e. In the case of gender discrimination, especially regarding women, almost all indicators showed that Pakistan's performance was worse.

Pakistan has yet to establish a comprehensive, long-term social development policy that adequately addresses the needs of its populace. Despite being seventy years since its inception, Pakistan continues to grapple with social, economic, financial, and educational development challenges (Ashraf et al., 2024). Nearly half of the population faces various forms of human deprivations, including limited access to essential social services such as education, healthcare, and safe drinking water. The country also contends with a significant wealth disparity between the affluent and the impoverished segments of society. Economic growth cannot be achieved without concurrently

enhancing human productivity and addressing these social inequities.

RQ1: Is there any nexus between Pakistan's economic growth and social development?

RQ2: Is economic growth in Pakistan pro-social development?

RQ3: How do macroeconomic variables like GDP growth rate impact the household-level social development indicators?

RQ4: Is there any difference between rural-urban social development scenarios?

Research Objectives and Hypothesis: Some specific research objectives of the study are highlighted as under;

1. To investigate the link between economic growth and social development in Pakistan based on Household Integrated Economic Survey data sets.
2. To know the impact of the growth rate on education and health at the household level in Pakistan.
3. To assess the difference between rural-urban social development patterns.

To logically quantify the objectives mentioned above, the following hypothesis may be tested in the study;

1. Ho: Economic growth and social development are uncorrelated in the case of Pakistan.

H1: Economic growth and social development are strongly correlated.

2. Ho: There is a negative correlation between economic and social indicators.

H1: There is a positive correlation between economic and social indicators.

3. Ho: There is no difference between rural and urban social families.

H1: There is a difference between rural and urban social families.

2 Literature Review

In recent decades, there has been a noticeable integration of social policy considerations into economic policy formulation. The significance of education in fostering human capital and the role of health in maintaining a productive workforce is widely acknowledged. Moreover, the interconnections between economic growth and equity are increasingly emphasized. Additionally, the importance of social capital and trust is being recognized as integral factors for facilitating economic development (Epezagne Assamala et al., 2022). The provision of social services such as education, healthcare, water supply, social security, welfare, and assistance is primarily the responsibility of the public sector. This research is expected to provide a fresh look at the subject and help academicians, researchers, and policymakers in further research on this much-needed subject. Social development is one of the significant research phenomena in the recent era of economic development

(Akhtar et al., 2023). A substantial body of theoretical and empirical literature underscores the relationship between microeconomic indicators of social development and economic growth (Li et al., 2020). Social development variables constitute vital and dynamic components of economic development, with the capacity to accrue external effects. Moreover, it is noteworthy that social development can be quantified through diverse metrics and measures, reflecting its multifaceted nature and varied impacts.

In conducting empirical studies on the relationship between social development and economic development, it is essential to evaluate the feasibility of acquiring knowledge about social development, either through proxies or estimation techniques. Additionally, even with the availability of necessary data, a fundamental question arises regarding how to utilize this data in empirical analysis—specifically, how it can be linked to theoretical constructs of development. In this section, we scrutinize prior research concerning the microeconomic variables of social development, which will serve as the foundation for our subsequent analysis in this paper.

2.1 Trickle-Down Approach

The literature delineates two distinct approaches regarding the causal relationship between economic growth and social development. The first approach, termed "trickle-down," posits that social development ensues as a consequence of economic growth. Essentially, as the gross domestic product expands, it is anticipated to facilitate the attainment of other objectives, including social development. This perspective aligns with Rostow's stages of growth model, wherein economic development acts as the impetus for transitioning through various stages toward the realization of a fully modernized society Rami Ben Haj-Kacem (2014).

Numerous researchers endorse the "trickle-down" approach. For example, Hagen (1980) demonstrates that the rise in per capita income leads to an enhancement in the distribution of material well-being. Similarly, Goldstein (1985) illustrates that economic growth invariably impacts at least one facet of social factors. This assertion is further supported by other scholars such as Ram (1985), Bruno et al. (1996), and Deininger and Squire (1996), among others (Li et al., 2023).

2.2 Trickle-Up Approach

The second perspective proposes a "trickle-up" phenomenon, wherein social development plays a pivotal role in propelling economic growth. Streeten (1981) notes that education and health exert significant influence on economic growth. Moreover, Barbara and

Randall (1989) observe a substantial and positive impact of the Physical Quality of Life Index (PQLI) on the Gross Domestic Product (GDP). Hicks (1979) explores the connection between economic growth and fundamental human capital, suggesting that the establishment of a critical minimum level of basic human capital may be crucial for stimulating economic output. Temple and Johnson (1998) provide evidence that social development indices possess considerable predictive power, emphasizing the importance of "social capability" for economic growth (Shahzad et al., 2021). This review of the literature on the causal relationship between economic and social growth underscores the absence of a consistent and universal answer regarding causal precedence. The nature of the relationship between economic growth and social development varies across different contexts and scenarios (Qader et al., 2022).

2.3 Review of Literature-based upon Microeconomic Indicators

Numerous empirical studies have investigated the link between microeconomic indicators such as expenditure on Health, Education, and food on macroeconomic indicators of an economy like Gross Domestic Product and Consumer Price Index. This section highlights several important and relevant studies in identifying the key features relevant to developing and developed economies.

Kalim and Shahbaz's (2010) study investigated the relationship between economic growth and social development and found two relationships between macroeconomic variables like economic growth and microeconomic indicators of social development (education, health, and safe drinking water) using the ADRL approach. Rami Ben Haj-Kacem (2014) focused on the oil-rich country, The study focused on the Kingdom of Saudi Arabia and selected the period from 1980 to 2011 to investigate the relationship between economic growth and social development. Additionally, the study examined the bivariate relationship between the variables of interest (Qader et al., 2022).

Nabila Asghar et al. (2011) conducted a study titled "Impact of Government Spending in Social Sector on Economic Growth: A Case Study of Pakistan," where they examined the empirical effect of government expenditure in the social sector on economic growth. Their findings revealed a direct relationship between government spending in the social sector and economic growth. Similarly, Babalola (2011) explored the long-run relationship between education and economic growth using the Nigerian economy as a case study (Li et al., 2021). Employing time series data, the study conducted empirical estimations by applying unit-root tests and the Augmented Dickey-Fuller (ADF) test. Johansen's cointegration test was then utilized to confirm the

existence of a long-run relationship among the variables, elucidating the impact of economic growth on social development (Li et al., 2023).

Afzal et al. (2010) delved into the connection between economic growth and household economic decision-making. Their research utilized longitudinal data comprising macroeconomic variables such as real GDP, physical capital, and inflation, alongside a microeconomic variable, namely school education. Through this analysis, they aimed to understand the linkage between economic growth and household-level economic decisions.

2.4 Social Development and Economic Growth in Pakistan

In recent years, Pakistan has made notable strides in restoring macroeconomic stability. The financial deficit has decreased from 8 percent to less than 5 percent, and international assets have surged to over \$18 billion. Additionally, the growth rate has seen improvement, reaching 5 percent. Ambitious structural improvement programs have been initiated, although their implementation has yielded mixed results. While there have been initial successes in areas such as taxation, the financial sector, the business environment (both at the national and provincial levels), and the electricity sector, significant reforms in the electricity sector have faced hurdles since the government halted privatization efforts a year ago (Zaidi, 2015).

However, Pakistan continues to lag in the South Asia Region regarding human development indicators, particularly in education and health. Despite an increase in net enrollment rates in education, Pakistan still trails other South Asian countries. Moreover, infant and under-five mortality rates remain high, and gender disparities persist across education, health, and economic sectors, with Pakistan exhibiting one of the lowest female labor force participation rates in the region (Hassan et al., 2023). Nutrition poses a significant challenge, with 44% of children under five experiencing stunted growth (Wang et al., 2023).

Furthermore, spending on health, nutrition, and education, currently accounting for 3.4 percent of GDP, falls considerably below levels observed in other countries. To bolster allocation to these critical sectors, enhanced government revenues are imperative. Pakistan's tax-to-GDP ratio, standing at 12.4 percent, is among the lowest globally and only half of its potential, underscoring the necessity for continued reforms to broaden the tax base and increase revenues. While service delivery primarily falls under the jurisdiction of sub-national governments, the federal government must play an active role in ensuring that increased financing translates into tangible improvements in service quality (Li et al., 2018).

In recent years, there has been a notable decentralization of decision-making authority, particularly with the implementation of the Eighteenth Constitutional Amendment. This constitutional change has resulted in the devolution of critical functions—such as those related to agriculture, education, environment, and health—from the federal to provincial governments. Moreover, a larger portion of revenues has been allocated to the provinces through the National Finance Commission Award (NFC) to facilitate their execution of these functions. However, the devolution process has also brought forth institutional and capacity challenges at the provincial level. Addressing these challenges will necessitate concerted efforts to bolster sub-national capacity and institutional development, recognizing the inherent variations in capacities across different provinces (Hongyun et al., 2021).

Pakistan has historically lacked a comprehensive and articulated social development policy that caters to the needs of its masses. The ruling elite, comprised primarily of urban groups and feudal lords, did not prioritize providing equal opportunities for all segments of society to develop fully. Consequently, even after 70 years of independence, Pakistan continues to face social, economic, financial, and educational challenges. Nearly half of the population suffers from various human deficiencies, and essential social amenities such as education, healthcare, and safe drinking water remain inaccessible to many. The country also grapples with significant disparities between the wealthy and the impoverished. It is crucial to recognize that economic development cannot be achieved solely through increased productivity but requires significant investment in human capital development. Societal issues in Pakistan are deeply entrenched within the social, political, and economic realms. Therefore, efforts must be directed towards enhancing human capabilities in social development sectors to foster overall development and service provision.

However, Pakistan's institutional framework suffers from weaknesses and inadequacies, hindering effective policy implementation. Addressing these challenges requires practical and actionable policies that can be effectively implemented. Poverty remains the most pressing issue in Pakistan, with two-thirds of the population living below the poverty line. This translates into significant human deficiencies, with a substantial portion of the adult population unable to meet their basic needs. Access to essential social services such as healthcare and safe drinking water is limited, contributing to the country's low GDP growth rate and depressed per capita income levels.

Throughout Pakistan's history, there has been a consistent emphasis on achieving high economic growth, often at the expense of addressing the fundamental needs of the impoverished population. Essential social services such as education, healthcare,

access to clean water, and affordable housing have received scant attention in government priorities. Budgetary subsidies and fiscal incentives have predominantly favored the affluent, with subsidies for the wealthy surpassing those designated for the poor by a significant margin, estimated at fifteen times higher. Furthermore, a mere fraction of the Gross National Product (GNP), approximately 0.3%, is directed toward the poorest segments of society through initiatives like Zakat and Bait-ul-Mal.

Efforts to combat poverty include initiatives like the Poverty Reduction Strategy Paper (PRSP), which seeks to integrate poverty alleviation with access to education, healthcare, nutrition, and empowerment of marginalized communities, alongside promoting asset ownership in rural areas. Additional financial resources are being allocated, and mechanisms for implementing poverty alleviation programs are being established. The government's economic recovery strategy encompasses targeted programs for undertaking minor public works in underserved urban and rural locales, a food supplementation scheme, and the establishment of a micro-credit bank.

Despite these endeavors, past poverty reduction schemes have often fallen short due to inadequate institutional mechanisms for monitoring and evaluation. Consequently, the number of individuals living in poverty has continued to rise over time.

Pakistan has historically lacked a comprehensive long-term policy for educating its population. The prevalent feudal culture in the country has often discouraged education for individuals with lower incomes, leading to a lack of prioritization for education initiatives. Consequently, Pakistan faces significant educational challenges, particularly in addressing its large illiterate population. The primary school enrollment rate for children in Pakistan stands at 82%, but dropout rates are high, with 55% of students leaving primary education prematurely. Enrollment rates decline sharply at the secondary level, with only 20% of students enrolled in secondary education and a mere 3% participating in technical and vocational training programs aimed at enhancing individual productivity, which is significantly higher compared to employment in the agriculture sector. The Constitution of Pakistan mandates the provision of free and compulsory education to all children between the ages of 5 and 16, with a focus on improving adult literacy rates. With the enactment of the 18th constitutional amendment, the simultaneous list, which included 47 subjects, was abolished, and these subjects, including education, were devolved to the federating units as part of efforts to enhance provincial autonomy.

Made under the Dakar Declaration Education for All (EFA) initiative, a commitment to which Pakistan is a signatory. Against the backdrop of educational statistics and Pakistan's strides towards the education objectives

outlined in Vision 2030, juxtaposed with its sluggish progress in attaining EFA objectives and Millennium Development Goals (MDGs) for education, there arises a critical imperative to scrutinize Pakistan's education landscape and address the myriad challenges it confronts.

In the budgetary framework of 2017, substantial allocations were earmarked for educational endeavors in Pakistan. A total of Rs 576 million was designated for new schemes under the Ministry of Federal Education, complemented by an additional Rs 2385.926 million allocated for ongoing schemes. Among the new initiatives, notable allocations include Rs 26 million for capacity building of education managers and Rs 16 million for Vocational Schools in Public-Private partnership ventures. Moreover, a substantial sum of Rs 1467 million has been directed towards the establishment and operations of Basic Education Community Schools across the nation. Additionally, Rs 737 million has been designated for initiatives aimed at enhancing Human Development Indicators in Pakistan, with a specific focus on educational MDGs and the six EFA Goals.

As a developing nation, Pakistan apportions a relatively modest share of its Gross National Product (GNP) to the social development sector, typically hovering around 2%, in stark contrast to the 4 to 5% norm observed in other countries. This meager financial allocation often exerts pressure on educational expenditure during periods of resource scarcity. The prevailing shortfall in the effective implementation of social policies underscores the imperative for adequate financial and material resources. Against the backdrop of the contemporary global economic milieu and the nation's aspirations for heightened living standards, social development has emerged as a pivotal political consideration in national planning endeavors.

While the nexus between economic growth and human welfare is not inherent, judicious public policies can serve as a conduit to bridge this gap by prioritizing public expenditure on essential social services and redistributing revenue through fiscal instruments. Regrettably, successive administrations over the past five decades have faltered in implementing forward-looking, equitable public policies, thereby exacerbating Pakistan's current predicament characterized by tepid growth and heightened socio-economic deprivation. To substantively bolster development outcomes, a comprehensive strategy is imperative, entailing concerted efforts to augment public spending and elevate its quality, with a particular emphasis on provincial-level interventions. Government initiatives should zero in on enhancing educational access and delivering tangible outcomes. Promising endeavors such as reforms in teacher recruitment and the provision of stipends to incentivize girls' attendance have demonstrated encouraging results in bolstering enrollment rates.

3 MATERIAL AND METHOD

3.1 Econometrics Technique

Panel data, also known as cross-sectional or time series data, consists of repeated observations on the same set of cross-sectional units over time. Such data provide two types of information: cross-sectional information, which pertains to the differences among subjects, and time series or within-subject information, which captures the changes over time within subjects. Regression techniques for panel data enable researchers to leverage both types of information, allowing for a more comprehensive analysis and better understanding of the relationships between variables over time.

3.2 Fixed & Random Effects and the Hausman-Taylor Models

It starts with the following generic models for panel data sets. $y_{it} = X_{it}\beta + \varepsilon_{it}$. Assuming that the error term has the follow structure $\varepsilon_{it} = \alpha_i + \eta_{it}$. Where the first term α_i shows an individual-specific effect, and the second one η_{it} Communicate to the general stochastic error term. In this formulation, the first one α_i 'varies across individual' or 'cross-section unit' but constant across time. This division may / may not be correlated with explanatory variables. The second part η_{it} Varies arbitrarily across time. This model will exhibit a co-relational attitude and different variables over time.

Fixed effect models are distinct from random effect models based on assumptions taken from Random effect model α_i iswith subscript with X_{it} .

a) Fixed effect model α_i is correlated with X_{it} .

In the fixed effects model, the parameters α_i are assumed to be n unknown constants, which need to be estimated. In contrast, in the random effects model, the parameters α_i are considered to be random draws from a distribution with mean μ and variance σ_α^2 . This distribution is assumed to be independent of the explanatory variables in X_{it} . The Hausman-Taylor IV estimator operates under similar assumptions regarding the explanatory variables X_{it} and the parameters α_i . However, it also incorporates instrumental variables to address potential endogeneity issues, making it particularly useful in situations where the explanatory variables are correlated with the unobserved individual effects.

Empirical studies show that the fixed effects model is reasonable using panel data but is not the most proficient in running a regression. Random effects will give better P-values as they are a more proficient estimator, so we will run random effects if it is statistically justified. Since the Hausman-Taylor estimator is constant and efficient, it will be used to compare both random and fixed effects estimators.

3.3 Macroeconomic Variables

a. Per capita GDP: Gross Domestic Product is a crucial indicator of a nation's economic performance. It is counted by adding up the annual incomes of all working-group citizens or by totaling the worth of all goods and services produced within the country in a year. (Investopedia). Per capita GDP is occasionally used as an indicator regarding the standard of living, with higher per capita GDP associated with a higher standard of living. A rise in per capita GDP shows growth in the country and tends to replicate an increase in the economy's productivity.

b. CPI inflation: The Consumer Price Index (CPI) inflation rate, derived from the Consumer Price Index, reflects the fluctuations in prices of goods and services within the economy. Various factors contribute to the growth in money supply within a country, including supply-side limitations, alterations in government-set prices, adjustments in exchange rates, and shifts in global food and fuel prices. The CPI serves as a prominent measure for monitoring price adjustments and is widely utilized as an indicator of inflation. Typically, the CPI is categorized into two primary groups: the food group and the non-food group, providing insight into the inflationary trends across different sectors of the economy (Pakistan Economic Survey, 2011).

c. Government Expenditure on Health: Spending in the health sector saves human lives and is an essential broader investment in the economy. Therefore, ill health or bad health damages productivity, obstructs job prospects and negatively affects human capital and development. Strong political assurance must be needed to treat health as a social objective either by legislation or administration and prioritize the state's expenditure on health. (World Economic Forum 2014)

d. Government Expenditure on Education: Economic growth is determined by new thoughts, ideas, and discoveries that result in better products and more proficient and well-organized production technologies. Governments across the globe are trying to improve human capital by pumping more investments into the education sector. Unfortunately, Pakistan's government spending on education is less than other developing countries in the region. The government's expenditure includes all public education institutions, facilities in the institutions, administration costs and all policy-making and research costs regarding the promotion of education.

3.4 Microeconomic Variables

a. Household Expenditure (HHE) on Health: Expenditure on health is significant because it is primary to the development of human capital, hence the growth of future income. On the other side, it is substituted with food and other expenditures if overall overall household income falls. A large study of literature shows that there

Table No.4.1: Descriptive Statistics

	EOE	EOF	EOH	GDP	GEOE	GEOH	CPI
Mean	2.751223	3.899271	2.711767	4.077862	12.75503	4.473572	1.975539
Median	2.789658	3.934278	2.690302	4.396457	11.86466	4.623068	2.000000
Maximum	3.219362	4.175483	3.091667	7.667304	15.44552	4.729606	2.162268
Minimum	2.020071	3.628618	2.339074	1.606692	10.92461	3.913945	1.742859
Std. Dev.	0.291451	0.168757	0.187415	1.777527	1.616588	0.288640	0.148035
Skewness	-0.622479	-0.251437	0.005270	0.390194	0.480927	-0.674616	-0.261014
Kurtosis	2.844659	1.583952	2.299119	2.464539	1.739513	1.974093	1.607713
Jarque-Bera	3.607204	5.174752	1.126001	2.052700	5.761233	6.583754	5.066819
Probability	0.164705	0.075217	0.569498	0.358312	0.056100	0.037184	0.079388

After going through the univariate analysis, we moved on to the econometric analysis of the model adopted in this study. We have analyzed each HIES indicator, taking into account the dependent variable separately. We have used a panel data model for each estimation.

exists a positive relationship between health and economic growth via human development (Asghir et al. 2011). Household expenditure on health includes medical care for all family members faced occasionally for all kinds of illness (HIES, 2015).

b. Household Expenditure (HHE) on Education: Education is the most important factor in building human capital and carries a long-run future impact on a family's economic status. Literature informs that attainment of education and human capital are essential ingredients for economic growth more over poverty and education are inversely correlated. (Tilak, 1994, 2005; Awan 2008). Expenditure on education includes school/college fees, expenditure on educational materials and transportation costs. (HIES 2015).

c. Household Expenditure (HHE) on Food: The food supplies take a major chunk of household income, especially in the first three income quintiles. So, any change in the CPI inflation significantly affects this expenditure. In case of any downturn in the economy, expenditure on health and education is substituted on food for food. Healthy food is necessary for human capital. Expenditure on food includes all expenditure on food items like necessities, fruits, vegetables, minerals, meat, wheat, rice and such other items. (HIES, 2015).

4 Data Description

For empirical analysis, data for the relevant variables has been taken from secondary sources. The data utilized for macroeconomic variables, including per capita GDP, CPI inflation, government expenditure on health, and government expenditure on education, has been primarily sourced from Economic Surveys of Pakistan (various issues), the State Bank of Pakistan, and data repositories of the World Bank. On the other hand, microeconomic variables such as household expenditure on health, education, and food have been extracted from the Household Integrated Economic Surveys, spanning various issues from 2005 to 2015, published by the Federal Bureau of Statistics, Government of Pakistan. The definitions for these variables align with the stipulations outlined in the

aforementioned documents. Moreover, to facilitate analysis and interpretation, consumption quintiles have been employed to disaggregate all microeconomic variables.

5 RESULTS AND DISCUSSION

Univariate Analysis

Table 4.1 below gives the univariate analysis of the variables used to analyze the impact of HIES indicators on macroeconomic indicators. Descriptive statistics help to understand the nature of the variable, which further allows the choice of appropriate methodology for analysis. The table consists of the mean, median, standard deviation, skewness, kurtosis etc. As per the statistics, all the variables are of minimum standard deviation, with GDP growth having the highest standard deviation among all variables. While the Jarque-Bera stats and its probability show that all the variables are typically distributed except GEOH (Government expenditure on health).

Graphic analysis

Household Expenditure on Health

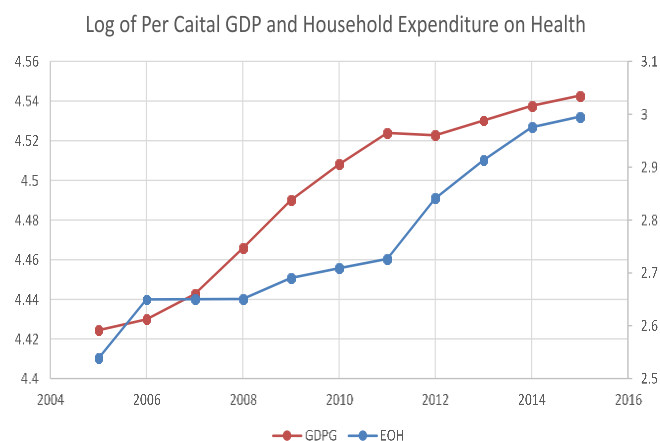


Fig. 4.1
Household Expenditure on Education

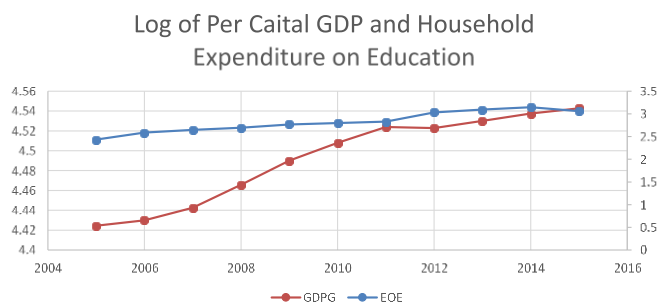


Fig. 4.2
Household Expenditure on Food

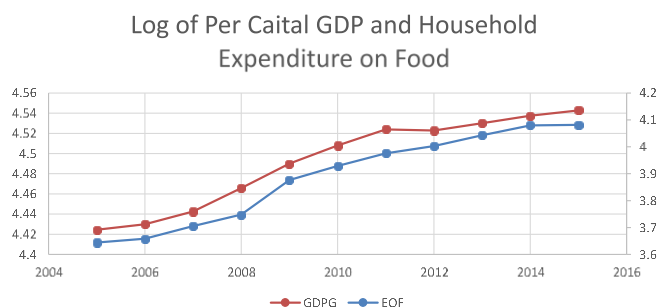


Fig. 4.3

6 Conclusion and Policy Suggestions

This chapter has presented the process of empirical estimation by applying the "Fixed Effect" and "Random Effects" estimation techniques. Descriptive and univariate analysis shows that all the variables have minimum standard deviation and are normally distributed. To estimate the impact of different microeconomic variables, health, education and food expenditure (at the household level), their model was estimated, at first pooled OLS Model, then the Fixed Effect Model and finally Random Effect Model. In household expenditure on health, random Effect Model is more appropriate and says a 1% change in macroeconomic variables (inflation, etc.) exerts 11.5% change in the same direction (i.e, positive relationship). In the case of household expenditure on education again among these models, the Random Effect Model is relatively appropriate, and the result indicates that the relationship is positive, and a 1% increase in GDP & inflation increases household expenditure on education by 4.9%. Finally, in the case of household expenditure on food, again, the Random Effect Model is best suited; the impact has been recorded as a 17% increase in macroeconomic indicators (especially government expenditures) leads to a 1.19% increase in household expenditure on food. The statistics show that the estimated models are 'good of fit' and the results are "significant"; these results are displayed In Various Tables Systematically.

The study aims to evaluate the relationship between economic growth and social development at the household level in Pakistan, utilizing panel data compiled from various issues of Household Integrated Economic Surveys (HIES). This type of dataset combines cross-sectional information, which reflects differences among subjects, with time-series information, which reflects changes within subjects over time. By utilizing panel data, the study can leverage the advantages of both types of information for estimation purposes. Empirical studies have suggested that the Fixed Effect Model is suitable for panel data analysis, although it may not always be the most efficient option for regression analysis. Random Effects models often yield better P-values in such scenarios. To address this, econometric practitioners have developed the Hausman Taylor estimator to compare the efficiency of both Random and Fixed Effect estimators. Consequently, the study has employed this estimator to ensure consistent and reliable estimations.

Before delving into empirical estimations, a univariate analysis was undertaken to elucidate the characteristics of the data and identify the suitable estimation technique. Subsequent to a meticulous scrutiny of the dataset, several models were estimated to evaluate the influence of diverse macroeconomic variables on microeconomic variables at the household level. Initially, the Pooled Ordinary Least Squares (OLS) model was employed. Following this, both Fixed Effects and Random Effects models were executed utilizing The Hausman-Taylor estimator.

These three models were compared in all three cases; statistics showed that the Random Effects model is more efficient and consistent. In the case of household expenditure on health, a 1% change in macroeconomic variable an 11.5% change in health expenditures were noted. Whereas expenditure on education was recorded by 4.91%, and in the case of food, the resultant change was 1.19%. All variables are positively related to these independent macroeconomic variables and are statistically significant. These empirical estimates show that macroeconomic directions impact the household's expenditure on health, education and food. These results are consistent with prior studies for like-wise countries and Pakistan. So, it is safe to conclude that the continues development of the social sector in Pakistan is the result of the Government's unwillingness to spend on these sectors. Only macroeconomic stability remained the focus area of public policies, which led to impressive GDP growth rates its trickle-down was never taken care of. This conclusion leads us to present some logical suggestions for public policy managers, which are;

a. Macroeconomic stability and GDP growth may be further strengthened if expenditures on social sectors like health & education increase significantly.

b. Public expenditure policies may be revisited, and lags of various kinds may be removed so that fruits of GDP growth may reach the masses.

c. Ongoing phenomena of demographic dividends may not be realized up to their full potential with increasing expenditure on health & education at all levels.

It may be recognized that technology's future growth would not be experienced over dreamed without a sound social sector policy along with other politico-economic arrangements.

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