

Impact of Deficit Financing, Education and Unemployment on Human Development: An Analysis from Pakistan

Sana Rashid ¹, Muhammad Saeed Hashmi ², Muhammad Amjed Iqbal ^{3,*}, Waqar Hussain ⁴ and Shahbaz Ahmad ⁵

¹ Department of Business & Management Sciences, University of Agriculture Faisalabad, Constituent College Depalpur, Okara, Pakistan

² Director Economics & Marketing, Agriculture, Punjab, Lahore, Pakistan

³ Institute of Agri. & Resource Economics, Faculty of Social Sciences, University of Agriculture, Faisalabad, Pakistan

⁴ Director ORIC, Preston University Islamabad, Pakistan

⁵ Department of Education, The Superior University Lahore, Faisalabad Campus, Faisalabad, Pakistan

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ABSTRACT

It has been observed that budget deficits affect the economies in the world. Public expenditures are also very significant for high economic development. Such expenditures must be increased during economic upturns and should be decreased during fiscal crisis. The existing research has emphasized on the dilemma of budget deficits and human development in Pakistan economy. We have used data from 1986 to 2024 in Pakistan economy. Study has also focused on the role of human capital and Government consumption expenditures in affecting human development. The result showed that budget deficit has affected the economic development very positively. Moreover, human capital has also enhanced the human development of the Pakistan economy. Finally, it is found that unemployment rate has decreased the economic development in that economy. It is recommended that Government should allocate more budgets to education for achieving high human development. Government must provide more job chances to the general public. Finally, there should be more economic and political stable environment for high development.

Corresponding Author: Muhammad Amjed Iqbal (Email: amjed.iqbal@uaf.edu.pk)

INTRODUCTION

Economic development in underdeveloped economies vestiges unbalanced because of structural challenges such as low income, disparity, joblessness, climate change, inadequate education, and underprivileged communications (Xholo et al., 2025; Pereira et al., 2025). Sustainable growth is dependent on progressing standard of living (Jie et al. 2023), as noted in Luxembourg's elevated growth determined by reliable investment in 2022. Additionally, the capability, talent, and knowledge of humans make available a strong groundwork for the financial affluence of underdeveloped economies (Brinkley, 2006). The opulence of a state is hardly dependent on investment in corporeal and technological possessions merely but also based on investment in human capital to improve their acquaintance and dexterity level. Consequently, a noteworthy mechanism for the enhancement of education is essential to recognize sustainable economic development. Human capital formation is a procedure that transformed individuals into precious possessions rather than a superfluous load on the market (Hendricks, 2002). It is well thought-out that a strong foundation of output and efficiency, thus administration is supposed to invest additional in human capital to boost their production and innovativeness (Lanzi, 2007). Furthermore, people also invest more in social capital to partake in monetary actions more properly.

Obtaining inclusive economic growth and development remains an essential ambition of up-to-date societies. Even as the idea of development is intrinsically multidimensional, human development has obtained rising gratitude as a more ultimate objective, rising above the meager increased growth to include improvement in human and social capital, and standard of living (Sen, 1999; UNDP, 2015; Todaro & Smith, 2009). Theoretical divides persist: Keynesian economics recommends that deficits be able to enhance economic growth and development, chiefly throughout the phase of underutilized factors of production, even as neoclassical and Ricardian viewpoints advise that constant deficits can crowd out private investment, increase inflation, or inflict pressures on future generations. Studies in the same way propose mixed conclusions, as a number of reports show a positive influence of fiscal deficits on development (Dang, 2016; Nwikina et al., 2021), while others come across unconstructive or impartial effects (Okafor et al., 2017). Focusing on growth influence, Fajingbesi and Odusola (1999) examined how government expenditures have influenced the growth of the economy by using secondary data. The regression result showed that government capital spending has positively affected the growth.

Baldacci et al. (2008) used panel data from emerging economies from 1975 to 2000, focused on social spending, human capital, and the growth of the economies. It is found that education and health spending tended to increase the accumulation of education and health capital, and resulted in boosted economic growth. The study suggested that improved governance, plummeting excessive budget deficits, and taming inflation will be beneficial for countries. By using data from 1984 to 1995 from African and Asian economies, Gupta and Verhoeven (2001) focused on how Government spending on education and health. It was found that African nations were less efficient as compared to Asian nations. The result showed that education and health expenditures led to enhanced growth. However, Kizilkaya et al. (2015) also analyzed how human development was affected by government spending in 14 OECD economies. They used data from 1998 and 2007. The results showed that taxes decreased human development, but electricity usage and government spending led to an increase in human development. Dang (2016) focused on how budget deficits affected human development in Nigeria by using data from 1980 to 2013. They also used the VEC model for this analysis. It was found a unidirectional long-run causality was found between budget deficits and development. The deficits increased human development. The study suggested better budget planning, which will affect the development and well-being of the economies.

Okafor et al. (2017) focused on the association of governmental expenditure on social capital and the development of the Nigerian economy. The VAR result showed that human development was significant in the current year (-1) but tended to converge insignificantly in the previous years. It was also found that education and health expenditures led to an increase in human development in Nigeria. Arshad et al. (2021) also emphasized how population growth and government social spending affected human development in Pakistan. The ARDL result indicated that population growth tended to decrease human development. Though remittances have enhanced human development. Hasbi and Wibowo (2022) analysed how government spending affected growth and human development by using data from 2010-2019. GMM result indicated that variable government expenditure and unemployment rate hardly affected the Islamic human development index.

Kousar et al. (2023) have examined the effect of government spending on human capital in Pakistan. They used data from 1990 to 2020 and applied ARDL technique for this. Findings indicated that domestic government health expenditures and education expenditures have increased human capital. It was also found that the social protection program tended to decrease child mortality in Pakistan. The study suggested more allocation of the budget towards education and health. Ugorji et al (2025) found the nexus between budget deficits and economic development in East Saharan Africa. They used data from 2000 to 2023 and found that budget deficits decreased economic development. It was recommended that deficits must be strategically managed to support development. Magida et al. (2025) highlighted how public health expenditure affects human capital development in South Africa. The VECM model was used in this analysis. It was found that government health spending has enhanced human development. The results highlighted that unemployment and population growth decreased human development. The study suggested more health spending.

Research Questions

1. How does the budget deficit in Pakistan influence human development?
2. What is the consequence of human capital on human development of the economy?
3. To what extent unemployment rate affect the human development of the Pakistan economy?
4. How do Government expenditures affect the development of the economy?

Research Objective

1. To analyze the influence of the budget deficit on human development in Pakistan.
2. To highlight the impact of schooling on human development in Pakistan economy.
3. To estimate the consequences of government expenditures on human development.
4. To find out how the unemployment rate affects the human development of the Pakistani economy.

Considering the significance of education, budget deficit, and human development, this study has checked the role of education, budget deficit, and Government expenditures on human development of the Pakistan economy.

METHODOLOGY

Data Source

In this section, we explain the data, data sources, and methodology. We have used data from 1986 to 2024. We have drawn data from World Development Indicators and economic surveys of the Pakistan economy. The study has focused on drawing data on the variables specified: human development index, budget deficit, education, Government

expenditures and unemployment rate. Human development was used as the dependent variable. We have used time series data for the Pakistan economy. The study has also used the OLS method for the analysis.

The econometric model is given as:

$$HDI = \beta_0 + \beta_1 BDEF_t + \beta_2 SSENRL_t + \beta_3 GGFCEXP_t + \beta_4 UNEMPLR_t + u_t \quad (1)$$

HDI= Human Development Index (life expectancy at birth, literacy rate, and standard of living measured by GNI per capita)

BDEF= Budget deficit (Expenditures- Revenues)

SSENRL= Secondary school enrollment ratio

GGFCEXP= General Government final consumption expenditures

UNEMPLR= Unemployment rate

u_t = (error term)

RESULTS AND DISCUSSION

Summary statistics are given in Table 1. The results show that on average, the human development index (HDI) is 00.4477 percent of Pakistan's economy. Though its range is 0.3 to 0.535 percent. It is also observed that the secondary school enrollment rate is 5.9019 percent. Moreover, the unemployment rate is 1.8165 in the Pakistani economy. Finally, the budget deficit is observed as -5.7359 percent. It is also found that general government health expenditures are 88.9832 percent of the Pakistan economy. The regression results are given in Table 2.

Table 1: Descriptive statistics

Variables	Mean	Std. Dev.	Minimum	maximum
HDI	0.4477	0.0540	0.3	0.535
BDEF	-5.7359	1.1245	-7.7	-3.3
SSENRL	5.9019	10.2113	-12.9257	33.4652
UNEMPLR	1.8165	1.9301	0.398	6.338
GFCEXP	88.9832	3.7902	82.6007	96.3896

Table 2: Dependent Variable is Human Development Index. Regression results

Variables	Coefficients, Standard Error and T statistics
BDEF	0.0159 * 0.0054 (2.94)
SSENRL	0.0012 * 0.0005 (2.49)
UNEMPRT	-0.0215 ** 0.0049 (-4.41)
GFCEXP	0.0012 0.0024 (0.50)
C	0.4018 0.2229

	(1.60)
R-Square	0.74
Adjusted R-Square	0.71
F-Statistics	24.35
Prob	0.0000

t- values are in parentheses; ** p<0.05 and * p<0.1

Budget deficit is a significant factor affecting the human development of economies. Keynes pointed out that a budget deficit increases investment and aggregate demand and production. In this way, output increases and, resultantly, human development and welfare may be enhanced. The study result shows that a one percent increase budget deficit results in an increase in growth and development by 0.0159 percent in Pakistan. The finding is favored by Dang (2016). Along with a budget deficit, education may also increase human development. A more educated and skilled workforce contributes more to investment, production, growth, and human development. Finding points out the positive relationship between education and human development in Pakistan. Unemployment rate may also affect human development. A higher unemployment rate will lead to fewer investments by entrepreneurs and less growth in the economy. The result highlights that a one percent increase in unemployment will result in 0.0215 percent more economic development in Pakistan. Our result is favored by Hasbi and Wibowo (2022).

Government expenditures are a very important factor affecting the human development of the people of economies. The government intends to allocate more budget towards health and education, and on other things in order to enhance the development of the general public of the economy. It has been observed that a one percent increase in general government expenditures has resulted in an increase in human development by 0.0012 percent in Pakistan. The result is supported by Kousar et al. (2023).

CONCLUSIONS

This research has examined how the budget deficit, along with other factors, affects the economy in Pakistan. We have used data from 1986 to 2024 from Pakistan. We have found that budget deficits and human capital have influenced the human development of the economy. The study focuses on welfare investment as a channel for human capital development and sustained economic growth. The result also shows that the unemployment rate has tended to decrease human development in the developing economy. Finally, Government final consumption expenditures have affected the economic development positively. Moreover, research highlights that welfare budgeting in Pakistan is inclined to be immediate rather as compared to strategically planned. Public expenditures are very significant for high development. Such expenditures must be increased during economic upturns and should be decreased during fiscal crises. On the basis of the results, research suggests that for fiscal stability, debt management, and external financial conditions. Moreover, there is a need to shift political agendas in the economy. The government should provide more employment opportunities for high growth and development. Finally, the economic and political environment should be stable for high chances of investment, growth, and development of the economy.

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