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Institutions as Growth Enablers: Do Weak Institutions Neutralize Human Capital Returns in Pakistan? Evidence from ARDL (1990–2024)

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Abstract

This paper investigates the hypothesis on whether the institutional quality is a limiting factor on growth returns of human capital investment in Pakistan in the 1990-2024. Conventional growth theory is a hypothesis that predicts that when there is a public investment in education and health, it will boost productivity and economic growth where such effects may not show up in the settings that are typified by weak institutional governance and inefficiency. This study estimates the short-run and long-run relationships between real GDP growth, institutional quality, education expenditure, health expenditure, financial development, and foreign direct investment using annual time-series data and carrying out the autoregressive distributed lag (ARDL) bounds-testing approach. The findings show that the long-term economic growth was positively related to institutional quality with significant evidence and education expenditure was statistically irrelevant and health expenditure had a significant adverse effect. These results indicate that the quality of institutions is an enabling factor: with weak institutions, higher human capital expenditure will not lead to productive capacity or long-run economic growth. The research is an addition to the institutional economics literature which offers country-specific evidence that the quality of governance is the conditioner of human capital investment effectiveness. The policy implications put more stress on governance reforms and accountability systems and efficiency in service delivery as preconditions to turn education and health spending into growth enhancing human capital.

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Introduction

The development of human capital has been considered as one of the pillars of economic growth. Education and health investments are likely to increase labour productivity, create innovation, and ensure that the country grows in long term. To the developing economies like Pakistan, the growth of the human capital is of special significance considering the demographic pressures and the ongoing development challenges. Nevertheless, lack of development in Pakistan cannot be attributed to a lack of public investment in education and health because, nevertheless, the economic growth of Pakistan has been unstable and lower than many other countries in the region.

This gap between theory and observed results leads to an important question: why has higher spending on human capital not been followed by the long-term economic growth in Pakistan? An emerging literature claims that the solution could be in the quality of institutions. The institutions define the effectiveness with which the resources are distributed, the way in which the policies are realized and whether or not the public expenditure is intended to bring the desired results (North, 1990). In the areas with weak institutions (where institutions are corrupt, have poor rule of law, weak bureaucracy, inefficient accountability) the public expenditures can be either inefficient or misappropriated or even eaten by rent-seeking behaviour.

The recent study of development indicates that the institution is not just one among many determinants of growth but rather it can act as an factors enabling framework that pre-disposes the other determinants of development like human capital and financial development (Rodrik, Subramanian, and Trebbi, 2004). In these situations, education and health spending increment will not create growth unless it is accompanied by robust institutional frameworks.

It is on this background that this research undertakes the exploration of whether weak institutional quality nullifies the returns to human capital investment in Pakistan. The study is a subtle explanation of the growth experience of Pakistan during the years 1990-2024 because the researcher concentrates on institutional quality as an enabling factor, but does not rely on it as a factor alone to explain growth.

Research Question

Are human capital investment processes facilitated by institutional quality improvements in Pakistan, and does poor institutional quality contribute to understanding why education and health expenditure has no or negative effects on economic growth?

Objectives

To investigate the long-run correlation between economic growth, institutions quality, and human capital investment in Pakistan.

To examine the dynamics of the short run between institutional quality, education expenditure, health expenditure, and economic growth.

To determine the level to which the empirical data confirms the institutional enabling hypothesis.

Contribution

The study adds to the literature suggesting Pakistan-specific time-series evidence that growth efficacy of human capital investment depends on the institutional quality. It uses methodologically the ARDL bounds testing methodology, which is particularly appropriate to mixed-order integration and small samples. Substantively, it re-packages poor human capital results as a governance issue, and not a shortfall of spending.

Literature Review

Global Evolution of Media Multitasking Research

Vol. 3 No. 11 (2025)

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In the development of modern economics, the place of institutions in economic growth has come into the limelight of modern development economics. North (1990) defines institutions to mean the formal and informal regulations that organize incentives and minimize uncertainty in economic transactions. With strong institutions, there is secure property rights, enforcement of contracts and credibility of policies hence leading to productive investment and innovation. This position is well supported by empirical evidence, as shown by Rodrik, Subramanian and Trebbi (2004) who indicate that institutional quality prevails over geography and trade integration to explain cross country income disparities.

Acemoglu and Robinson (2012) go on to suggest that inclusive institutions contribute to sustainable growth because they allow most people to participate in economic activity, whereas extractive institutions concentrate power and suppress incentives. Mauro (1995) demonstrates that corruption is a major cause of lower investment and economic growth and Kaufmann, Kraay, and Mastruzzi (2011) bring out the governance effectiveness as an important factor that determines economic performance. Weak institutions have been linked to macroeconomic instability, inefficiency in government expenditure, and low growth potential in the developing world (Easterly and Levine, 2003; Rodrik, 2007).

These findings are supported by Pakistan-specific studies. Ali and Haider (2019) and Farooq et al. (2020) record that the growing growth of Pakistan has been limited due to bad governance practices, political instability, and poor rule of law despite the large number of people who have invested in the economy. Mehmood et al. (2023) also prove that the quality of institutions directly influences the growth and indirectly the efficiency of financial development and the government expenditure.

2.2 Human capital and Economic Growth.

The human capital theory assumes education and health boosts labor productivity, innovation and long-run development (Becker, 1993; Mankiw, Romer, and Weil, 1992). A positive correlation is normally observed between human capital accumulation and the economy by comparing countries (Barro, 1997; Bloom, Canning, and Sevilla, 2004). Nevertheless, the recent literature highlights that, the quality of the human capital, and not just the level of expenditure, is the key that will cause growth outcomes (Hanushek and Woessmann, 2008).

Inefficiencies in the delivery of services in many developing economies destroy the effectiveness of the public spending on education and health. According to Filmer, Hammer and Pritchett (2000), corruption and weak administrative capacity are the factors that ensure that health spending does not lead to better population outcomes. Equally, as it has been observed by Pritchett (2001), the expansion of schooling without learning is associated with minimal growth dividends. These results indicate that the effect of the human capital expenditure on growth is critically sensitive to the quality of governance.

This is supported by empirical evidence in South Asia. Hafeez and Rahim (2019) establish a long-run relationship between human capital and growth in Pakistan, but stress the limitation due to governance. According to Islam and Shindaini (2022), education expenditure leads to negative long-run effects in cases of weak institutional quality, in terms of inefficiencies in both allocation and implementation.

2.3 Institutions as Human Capital returns

An expanding body of literature promotes the fact that institutions mediate the efficacy of human capital investment. Rajkumar and Swaroop (2008) demonstrate that, it is only when a country has good governance that the outcomes of the public spending on education and health are enhanced. The same results are also established by Baldacci et al. (2008) who establish that social expenditure can help in growth when the level of institutional quality is

Vol. 3 No. 11 (2025)

Journal of Social Signs Review

Online ISSN 3006-4651

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high. The implication of these studies is that institutions are an facilitating structure that changes spending to productive results.

Rodrik (2007) contends that the development needs country-specific institutional arrangements that make incentives and capabilities compatible. When the institutional environment is weak, more expenditure can lead to more inefficiency and not productivity. Recent empirical evidence validates the assumption that the quality of governance conditions mediate the association between human capital and growth (Nguyen et al., 2018; Chinoda and Kapingura, 2023).

In the case of Pakistan, such an opinion is especially applicable. The works of Awan et al. (2024) and Mehmood et al. (2023) show that institutional changes enhance the growth effect of education and financial development. On the other hand, weak institutions lower the returns to the investment of human capital, and this causes the high spending and low growth paradox. This paper is a continuation of this literature since it empirically tests institutional enabling hypothesis through a long time-series model.

This orientation suggests that institutions have a direct as well as an indirect role in growth by conditioning the impact of other determinants of growth.

3. Data and Methodology

3.1 Data Sources and Variables

Annual data on Pakistan is used in the study since 1990 to 2024. Variables include:

Economic Growth (EG): The real GDP growth rate.

Institutional Quality (IQI): Composite index of governance.

Education Expenditure (GEE): Government expenditure in education as a ratio of GDP.

Health Expenditure (CHE): The current level of health expenditure as a GDP.

Financial Development (FD): General measure of the development of the financial sector.

Foreign Direct Investment (FDI): Net inflows relative to the GDP.

Researchers use internationally renowned databases like the World Development Indicators and the governance indicators as sources of data.

3.2 Model Specification

The empirical model is specified as:

$$EG_t = f(IQI_t, GEE_t, CHE_t, FD_t, FDI_t)$$

3.3 Econometric Approach

The autoregressive distributed lag (ARDL) bounds-testing approach developed by Pesaran, Shin, and Smith (2001) is employed to examine cointegration and estimate both short-run and long-run relationships. This approach is appropriate given the mixed integration orders of the variables.

4. Empirical Results

4.1 Descriptive Statistics

The descriptive statistics will give a preliminary picture of the essential variables to be considered in the analysis and will place Pakistan macroeconomic and institutional environment within the time frame 19902024.

Note. Authors own calculation

The findings show that the real GDP growth has moderate volatility, which has been the historical trend of boom-bust cycle in Pakistan due to political instability and external shocks coupled with weakness of the structure. The mean of institutional quality is not very high and its variation is high indicating that there are institutional issues of governance and that over the years, there has been fluctuation in the political stability, effectiveness of regulations, and the rule of law. These trends coincide with the previous literature which considers

Vol. 3 No. 11 (2025)

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institutional fragility one of the major characteristics of the Pakistani development process (Ali and Haider, 2019; Mehmood et al., 2023).

The structural issues are also shown through human capital indicators. The spending on education is rather stable yet small as a percent of GDP which implies that fiscal priorities are limited regardless of the demographic pressures. The variation in health expenditure is a bit more, which is episodic as it increases in case of health crisis and fiscal strain. There is also significant dispersion in financial development and foreign direct investment thus showing inconsistent access to finance and unstable investor confidence. On the whole, the descriptive statistics imply that the growth environment in Pakistan is also marked with the institutional instability and asymmetrical patterns of investment, which supports the institutional approach in the assessment of the effectiveness of human capital expenditure.

4.2 Correlation Analysis

The correlation table gives initial data on the linear relationships between economic growth and institutional quality as well as the human capital level indicators. Institutional quality is positively but weakly related to economic growth, so enhancements in governance are likely to go hand in hand with growth, but only at a modest level that would not support the idea that they are directly related. This low correlation is in line with the opinion that institutions affect growth in an indirect manner by affecting investment efficiency and service delivery as opposed to having direct output impact (Rodrik et al., 2004).

Table 2. Correlation Matrix

	GDP	IQI	CHE of GDP	FD	FDI	GEE of GDP
GDP	1					
IQI	0.20	1				
CHE of GDP	-0.176	0.680	1			
FD	-0.197	0.387	0.293	1		
FDI	0.075	0.271	0.179	0.198	1	
GEE of GDP	-0.141	-0.107	0.068	0.215	0.072	1

Note. Authors own calculation

However, it is important to note that education and health spending exhibit poor or negative relationship to economic growth implying that increased government spending on these areas has not been systematically linked with better growth performance of Pakistan. Conversely, institutional quality is only moderately related with the health expenditure and financial development indicating that where governance environments are better, more social spending and financial deepening can be achieved. These trends affirm the institutional enabling hypothesis by showing that the level of human capital investment and financial development is strongly associated with the quality of governance, but otherwise their direct correlation with growth quality is low. The results of the correlations therefore give a preliminary explanation of the econometric analysis that will be carried out subsequently.

4.3 Unit Root and Cointegration Tests

Unit root tests establish variables to be integrated at order I(0) or I (1), which justifies the application of ARDL. The bounds test shows that there is a long-run cointegrating relationship between the variables.

Vol. 3 No. 11 (2025)

Journal of Social Signs Review

Online ISSN 3006-4651

Print ISSN 3006-466X

Table 3. ADF Results

Variables	Level	1st Difference	
GDP	-4.6078 (0.0008)	-15.0675 (0.0000)	I(0)
IQI	-3.1772 (0.0302)	-8.6866 (0.0000)	I(0)
CHE of GDP	-1.9823 (0.2928)	-4.7030 (0.0006)	I(I)
FD	-2.1814 (0.2163)	-4.6945 (0.0006)	I(I)
FDI	-1.8842 (0.0443)	-3.7961 (0.0069)	I(0)
GEE of GDP	-2.1620 (0.2231)	-8.1855 (0.0000)	I(I)
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Note. Authors own calculations

4.4 Long-run estimates and Short-run estimates.

The long-run outcomes indicate that the institutional quality positively impacts the economic growth statistically significantly. The expenditure on education does not affect it, whereas health expenditure do -not affect it statistically significantly. The dynamics of the short-run show the same trends where the error correction term is significant and negative, meaning that it rapidly adjusts to equilibrium.

Table 4 ARDL Short Run Results

Variables	Coefficient	Std-Error	t-stat	Prob
C	47.4903	6.1238	7.7550	0.0000
D(IQI)	0.3686	0.4658	0.7913	0.4411
D(CHE-OF GDP)	-7.6559	2.8455	-2.6905	0.0168
D(FD)	-0.1686	0.0969	-1.7394	0.1024
D(FDI)	2.3475	0.9633	2.4368	0.0278
D(GEE-OF GDP)	1.2251	1.1682	1.0488	0.3109

Vol. 3 No. 11 (2025)

Journal of Social Signs Review

Online ISSN 3006-4651

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ETC	-0.8839	0.1393	-7.7837	0.0000
R-Squared	0.7996			
Adjusted R-Squared	0.7041			

Note. Authors own calculations

Table 5. Long Run Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
IQI	4.034	1.689	2.388	0.0305
CHE	-14.964	4.986	-3.001	0.0090
FD	0.203	0.114	1.772	0.0967
FDI	-2.062	0.939	-2.194	0.0444
GEE	-1.729	1.837	-0.941	0.3614
@TREND	-0.192	0.101	-1.893	0.0779

Note. Authors own calculations

The cointegration among variables is approved by the bounds test. In the long-term, the institutional quality (IQI) is positive and statistically significant (= 4.034, =.0305; Table 6). This is consistent with institutional theory that underscores that improved governance upholds investment, productivity and growth (North, 1990) and within the development results that institutions are pivotal to development outcomes (Rodrik et al., 2004). Conversely, education expenditure (GEE) does not have significant statistical values (p =.2274) and health expenditure (CHE) is negative and significant (-14.964, p =.0090). The short run dynamics are presented in Table 5: The value of ΔCHE is negative and significant (p =.0088), as compared to the value of ΔGEE which is insignificant (p =.9327). This empirical trend is in line with the institutional enabling hypothesis: when the institutional environment is weak, human-capital spending is not a dependable way to acquire growth-enhancing human capital. The observation does not mean that education and health are non-essential; it only indicates that the manner in which expenditure is converted to results, i.e. via governance, capacity of delivery and accountability, is of paramount importance. 4.2 Speed of adjustment The error correction measure is negative and quite high (ECT (-1) = -0.7142, p =.001; Table 5), which means that devim corrects relatively fast - approximately 71 percent adjustment per year.

5. Discussion

The institutional enabling hypothesis has solid evidence in the empirical findings. The fact that institutional quality has a positive and significant role in economic growth indicates that the governance structures form the basis of determining the Pakistani growth pattern. This conclusion is consistent with institutional economics theory that asserts that good institutions solve the uncertainties and enhance distribution of resources (North, 1990; Rodrik et al., 2004).

On the contrary, the smallness of the education expenditure suggests that the growth-enhancing human capital has not been generated in response to the augmented government expenditure of education. This is probably an indication of poor governance, including poor

Vol. 3 No. 11 (2025)

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Print ISSN 3006-466X

monitoring, politicized staffing and poor accountability, which cannot allow spending to be used to enhance education quality and skill development (Hanushek and Woessmann, 2008). The adverse impact of the expenditure in health also demonstrates the importance of the institutional inefficiency. Without effective governance, more health spending could either be a sign of inefficiencies, misdirected spending, or ad hoc spending when there is a recession instead of efficient investments in population health. The same trends have been recorded in other emerging economies that have weak institutions (Filmer et al., 2000; Rajkumar and Swaroop, 2008).

Put collectively, these findings imply that institutions do not only have a direct impact on growth but also define whether human capital investments give productive returns. Unless there is some progress towards better governance, the growth in the education and health expenditure will not yield sustained economic growth.

6. Policy Implications and Conclusion.

This paper aimed at investigating the hypothesis of whether institutional quality acts as an enabling factor in terms of determining effectiveness of human capital investment in fostering economic growth in Pakistan between the year 1990 and the year 2024. The analysis is conducted in the framework of the autoregressive distributed lag (ARDL) bounds-testing model and contains solid proofs of the long-run stable relationship between economic growth, institutional quality, education spending, health spending and financial development and foreign direct investment.

The empirical results indicate that the institutional quality creates a statistically significant positive long-run effect on the economic growth, which supports the primary role of governance structures in the formation of the growth pattern of Pakistan. Conversely, it is established that, statistically insignificant to the economic growth in the short and long term, is the public expenditure on education, whereas health expenditure is found to have statistically significant negative correlation with economic growth. These findings oppose the time-honored belief that higher expenditure on education and health necessarily leads to growth and instead indicate the significance of the institutional environment in which the expenditure takes place.

The institutional enabling hypothesis is backed by the combination of high institutional and low or negative human capital expenditure effects. Precisely the results indicate that the poor institutions in Pakistan, in terms of low accountability, poor delivery of public services, and failure of governance, have limited the transfer of education and health expenditure into productive human capital. Instead of serving as growth promoting investments, spending on the social sector in a weak institutional setting can turn out to be inefficient fiscal spending that has minimal or even negative growth payoffs.

More so, the large and negative error-correction coefficient suggests that there is a comparatively quick change towards long-run equilibrium after short-trace shocks. But without a lasting increase in institutional quality, these adaptations are probably to revert the economy to a low-growth regime in place of achieving a growth transition to a higher growth regime. Combined, the findings suggest that the current growth obstacles in Pakistan do not suggest a lack of social spending, but they can be explained by the inefficiency of institutional structures that would render such spending ineffective.

6.1 Policy Recommendations

The results of the study have significant policy implications to the development policy of

Vol. 3 No. 11 (2025)

Journal of Social Signs Review

Online ISSN 3006-4651

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Pakistan. To begin with, policymakers need to be more governance-first in terms of human capital development. Even though raising education and health budget is still crucial, the findings show that expenditure is not enough. Any increase in social sector spending should be accompanied or be preceded by institutional reforms so as to enhance transparency, accountability, and administrative capacity. Such reforms have not occurred; hence more expenditures may strengthen the inefficiencies, instead of promoting productivity.

Second, the enhancement of efficiency in the public spending should be one of the main priorities in policies. This necessitates a tightening of budget planning, execution and monitoring within the education and health sectors. Leakages can be minimized by use of performance based budgeting, independent auditing and digital expenditure tracking systems making sure that allocated funds get to any intended beneficiaries. Reforms in the education field should focus on learning outcomes, accountability of the teacher and recruitment based on merit instead of just enrolment. In the health sector, expenditure must focus on preventive treatment, primary healthcare access, and cost-effective treatments instead of focusing resources in tertiary facilities that are very expensive.

Third, institutional changes must aim at improving the local level of service delivery and accountability systems. It is possible that decentralized governance structures with high levels of oversight enhance responsiveness and efficiency in education and health services. Accountability can further be enhanced by citizen feedback systems, social audits and outcome-based assessments which can also be used in alignment of the services offered to the community.

Fourth, increased institutional coordination and policy coherence is needed. The lack of cohesion in the administration at the federal, provincial, and local levels may weaken the social expenditure. There is need to have clear allocation of duties, coordination between institutions and policy implementation consistency in order to maximize the growth impact of human capital investment.

Fifth, market wide institutional reforms other than social sectors are also important. Better rule of law, quality of regulation, and corruption should be improved to increase the confidence of the private sector and supplement government investment in human capital. When the institutional environment is predictable and transparent, it promotes the growth returns of education and health improvements and will absorb skills more readil

6.2 Implications for Development Strategy and Future Research

Within the wider developmental framework, the findings hint at the fact that the long term growth agenda of Pakistan needs to shift beyond a more limited emphasis on expenditure growth to a more coherent institutional reform program. It will take human capital investment, financial development and trade openness to pay off in form of dividends of growth only when it is entrenched in a robust institutional structure.

The next phase of the study can be developed by the future research to explicitly model the correlation between institutional quality and human capital variables to directly test the enabling mechanism. Further extensions may include other ways of measuring human capital outcomes, including learning-adjusted years of schooling or health outcome measures, and may test structural breaks that might be linked to significant policy change or political change. The comparative studies could also be used in other South Asian economies that could help us to understand more about the role of institutions in influencing human capital returns.

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Vol. 3 No. 11 (2025)

Journal of Social Signs Review

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