

# **Fiscal Decentralization and Human Development in Selected Developing Countries in Asia: Role of Institutionalization**

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## **Abstract**

The paper aims to investigate the impact of fiscal decentralization on human development and moderating role of political institutions in selected Asian countries for the time period 1990-2019, applying panel data Fixed and Random Effects models. The empirical findings show that fiscal decentralization at both the provincial and local levels significantly affects human development. The optimal level of fiscal decentralization is computed at 1.143 and 0.229, respectively, suggesting that fiscal decentralization above this level may revert the results for human development. The non-linear specification of the model also portrays a rising human development in the wake of fiscal decentralization but at a decreasing rate. Moreover, the role of institutionalization is proved effective in the case of the countries where provincial-level decentralization is controlled in the model. The results imply that a lack of proper coordination and mismanagement due to many governance tiers can subside human development. However, fiscal decentralization is an essential factor for Asian countries to increase the efficiency of the public sector if supported with a controlled decentralization at the sub-national level.

***JEL Classification:*** H50, H70, O15

*Keywords: State and Local Government, Human Development Index, Huntington's Approach.*

## **1. Introduction**

In developing countries, the debate around fiscal decentralization has been growing over the recent decades. Fiscal decentralization is a transfer of responsibility from central to provincial and local government [Rodden (2003) and Braun & Grote (2002)]. According to Vaillancourt (1997), developing countries gradually adopt the decentralized governance system to avoid macroeconomic instability, inadequate economic development, and inefficient governance. In Western countries, decentralization has remained an effective instrument for restructuring governments. For instance, European decentralized governance directly impacts the socialist framework and the economy (Bird & Wallich, 1995). In the Asian region, this appears as a tool to settle economic inefficiencies, as Faridi et al. (2019) pointed out. In contrast, decentralization in Latin America was initiated by shifting the political force from the people (Rojas, 1999). Conversely, decentralization has been supported in African countries to achieve national unity (World Bank, 1999).

Fiscal decentralization, as one of the significant branches of decentralization, defines how a country's revenues and expenditures are allocated to the various levels of government. Hence, fiscal decentralization includes two interconnected concerns: the allocation of revenues and expenditures across various levels of government and the discretionary powers given to the local and regional governments in determining their revenues and expenditures. These combined features significantly impact decentralization at a broader scale, i.e., political and administrative levels.

Fiscal decentralization can be linked to human development due to its direct connection with the country's governance, which entails the provision of basic human needs. More specifically, human development pertains to expanding people's choices, a healthy environment, access to quality education, and a decent standard of living. The process of

human development involves attaining an optimum level of health which contains mental, educational, social, and cultural components translated into poverty reduction, social development, and economic growth. To understand human well-being, Amartya Sen (1999) embodied the capabilities approach that highlights the importance of ends (standard of living) over the means (income per capita). Scholars believe that fiscal decentralization in the health sector has remained beneficial as the decentralized healthcare system offered at the provincial government level can better adapt to the needs of residents.

Moreover, a decentralized system is expected to be more effective in implementing and managing health and education programs due to higher community participation and local responsibility. According to Ahmed and Lodhi (2016), decentralization of health provision is predicted to improve efficiency by better-allocating resources to specific groups, particularly low-income groups. Hence, fiscal decentralization can improve public welfare and increase the productivity of community service delivery, allowing the poor to access fundamental services such as education, health, electricity, and water. According to Tanzi (1996) and Oates (1972), the essence of fiscal decentralization is an adequate and efficient distribution and utilization of resources at different levels of government. Implementing fiscal decentralization correctly can lead to greater political stability, government efficiency, and higher public service living standards (World Bank, 2000).

Despite significant progress in human development, huge disparities remain, and many have been denied fundamental rights such as health care and education in developing countries, indicating the lack of human development. From that context, the role of institutionalization, based on Huntington's index (1965), can play a pivotal role. Institutionalization is the process by which political institutions grow in strength and quality. According to Huntington (1965), the level of institutionalization can be determined by the prevalence of such organizations, which are adaptive rather than rigid and are adapted to tackle the challenges; they are autonomous rather than submissive, implying that more powerful institutions would be more self-sufficient than the rest; they can be defined by the coherence rather than discord factors implying that there will be more agreement inside the organization. Notably, the more adaptive and less rigid organization is associated with higher political institutions.

In comparison, a lesser adaptable and inflexible organization is associated with a lower level of institutionalization. In general, it is a function of age and environmental challenges of the particular political group. The greater its age and the more problems it has faced in its surroundings, the more adaptive it is. This implies that younger organizations and political groups are more rigid than older organizations. Hence, generational age is a second indicator of adaptation. The adaptability of an organization is still in question as long as its founding leaders are still in power and a method is still ongoing by those who carried it out. Finally, administrative adaptability can be examined in terms of its functional capabilities. An organization that has one or more changes in its primary functions and has adapted to changes in its environment is more institutionalized than the one that has not. Political parties are essential in maintaining stability and legitimacy in the political system.

With this background, this study attempts to measure the impact of fiscal decentralization on human development along with the moderating role of political institutions. According to the Asian Development Bank (2011), decentralization has caught the interest of governments in South Asia. From 1990 to 2014, approximately 46 percent of total expenditures were distributed at the subnational level in India, 3 percent in Pakistan, 6 percent in the Maldives, and 4 percent in Bhutan. Revenue decentralization is low in comparison to expenditure decentralization, with nearly 34 percent in India, 5.3 percent in the Maldives, 1.1 percent in Pakistan, and 1.7 percent in Bhutan. (Faridi et al. 2019). Like most other parts of the world, decentralization in Asia is unique and offers varied effects on the respective countries.

To the author's knowledge, limited studies are available that measure the linear and non-linear effect of fiscal decentralization on human development in developing Asian countries. We are envisioned to study the impact of fiscal decentralization on human development by including the role of institutionalization for selective Asian developing countries for the time period 1990 to 2019. Besides, a broader index of institutionalization (based on political indicators) is used to discover its impact on human development with other standard variables, including trade openness, income inequality, inflation, and foreign direct investment. The study also provides the non-linear association between fiscal

decentralization and human development and provides the marginal effects of fiscal decentralization and institutionalization at the country level.

The rest of the paper is organized as follows; the second section deals with the literature review. The third section provides the methodology. The fourth section reports and discusses the empirical results. The final section concludes the paper with some policy implications.

## **2. Review of Literature**

Theoretical literature on fiscal decentralization is based on the theorem of decentralization given by Oates in 1972, they explain the relationship between fiscal decentralization and human development. According to Oates (1972), public goods and services preferences differ for all districts. Fiscal decentralization promotes allocative efficiency, proficiency in the distribution of public services, and transparency. Likewise, Musgrave (1959) argued that fiscal decentralization improves allocative efficiency, economic proficiency, accountability, and better delivery of public services. He disaggregated the function of government into three groups; resource allocation, income distribution, and economic stabilization. According to Musgrave (1959), the primary function of government is to provide maximum social welfare through public goods allocation. Bird and Wallich (1995) concentrate on the institutional factors important for decentralization, pointing out that most research on decentralization assumes the presence of weak institutions in developing countries. Another important argument given by Prud'homme (1995) is that institutional design creates problems in decentralizing the system because institutions are strong in rich countries and weak in low-income countries. He criticized the theories of fiscal federalism and allocative efficiency.

Most empirical studies support the argument that fiscal decentralization has a significantly positive effect on human development. For example, Lindaman and Thurmaier (2002), Habibi et al. (2003), and Silas (2017) find a positive relationship between fiscal decentralization and human development. However, some studies reported a negative relationship between fiscal decentralization and human development, like Pasichnyi

(2019)]. Mostly, previous studies show that revenue decentralization is positively related to human development. However, expenditure decentralization is negatively related to human development in developing countries in some cases [Faridi et al. (2019), Udoh et al. (2015) and Yusof (2018)].

Similarly, the existing literature on the impact of fiscal decentralization on political institutions provides mixed results. Enikolopov and Zhuravskaya (2007) and Kyriacou and Sagales (2008) provided evidence for a positive relationship between fiscal decentralization and political institutions. According to Tranchant (2008), fiscal decentralization is more effective in developed countries because their institutions are stronger than in developing countries. Another study by Shelleh (2017) focused on the relationship between fiscal decentralization and political institutions in developing countries using fixed and random effect techniques for the time period 1984-2012. The empirical results show that revenue decentralization reduces institutional quality, but expenditure decentralization tends to increase it.

By and large, studies need to differentiate between provincial and local expenditures and revenues that could yield variation in results. The impact of fiscal decentralization on human development following Huntington's approach to measuring political institutions is uncommon in research. This study bridges the gaps in the literature in many ways. Firstly, this study differentiates between provincial and local expenditures and revenues. Secondly, the impact of political institutions on human development is measured by the index of institutionalization. Thirdly, this study investigates whether there exists a non-linear relationship between fiscal decentralization and human development.

### **3. Methodology and Data Description**

#### **3.1 Theoretical Framework**

Oates's (1972) theorem of decentralization is essential in explaining the relationship between fiscal decentralization and human development. According to Oates (1972), fiscal decentralization is directly linked with human development because the main objective of fiscal decentralization is to increase the quality and quantity of public and human welfare. To understand human well-being, Amartya Sen embodied the capabilities approach

emphasizing the importance of ends (standard of living) over the means (income per capita). Secondly, Huntington's (1968) institution-building approach to political development is used to explain the role of institutionalization in human development. This approach also describes political stability as political development and political instability as political decay. Therefore political development and stability can be directly linked, and this link is connected with social welfare and human development. As Khan et al. (2019) supported, development can be accomplished through strong institutions.

The Median Voter Theory of Democracy proposed by Olson explains the indirect link between fiscal decentralization and human development by incorporating the role of political institutions. According to theory, a democratic system provides a higher level of redistribution. Amartya Sen (1997) identified the quantitative dimension of redistribution. It allowed for the extension of median voter theory by explaining the essential requirements of democratic institutions because democratic institutions make better redistribution and are responsive to the needs of society. In short, the institutional background is expected to decide the design of the inter-governmental fiscal system and eventually affect the results of the fiscal decentralization reform process.

### **3.2 Empirical Model and Data Description**

The empirical models to estimate the influence of fiscal decentralization on human development with the role of institutionalization in selected Asian developing countries for the time period 1990 to 2019 is given below:<sup>12</sup>

#### ***Base Model***

$$HD_{it} = \alpha_0 + \alpha_1 FD_{it} + \alpha_2 PI_{it} + \alpha_3 \ln FDI_{it} + \alpha_4 \ln INQ_{it} + \alpha_5 \ln INF_{it} + \alpha_6 \ln TO_{it} + \mu_{it} \quad (1)$$

#### ***Interaction of Fiscal decentralization with Institutionalization***

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<sup>1</sup> The sample selection is subject to the availability of data for fiscal decentralization. The sample comprises the following panels: Panel 1 (for the model using provincial decentralization) consists of Armenia, Azerbaijan, Iran, Mongolia, India, Malaysia, Maldives, Pakistan, and Uzbekistan. While, Panel 2, for the model using local decentralization, contains Armenia, Azerbaijan, Iran, Mongolia, Indonesia, Kyrgyzstan, Thailand, Turkey, and Tajikistan.

<sup>2</sup> Due to missing observations, the panel is unbalanced.

$$HD_{it} = \beta_0 + \beta_1 FD_{it} + \beta_2 PI_{it} + \beta_3 FD_{it} * PI_{it} + \beta_4 \ln FDI_{it} + \beta_5 INQ_{it} + \beta_6 INF_{it} + \beta_7 \ln TO_{it} + \mu_{it} \quad (2)$$

### ***Measuring the Non-Linearity***

$$HD_{it} = \gamma_0 + \gamma_1 FD_{it} + \gamma_2 FD_{it}^2 + \gamma_3 PI_{it} + \gamma_4 \ln FDI_{it} + \gamma_5 INQ_{it} + \gamma_6 INF_{it} + \gamma_7 \ln TO_{it} + \mu_{it} \quad (3)$$

The study's dependent variable is Human Development (*HD*), measured by the Human Development Index (HDI) developed by UNDP. It measures three fundamental areas of human development: healthy life; evaluated by life expectancy at birth, Education; assessed by expected and mean years of schooling, and the standard of living; determined by Gross National Income (GNI). *FD* represents fiscal decentralization which is determined by the index of composite decentralization calculated by both expenditure and revenues following Martinez Vazquez (2011) and Iqbal et al. (2012). *PI* shows the political institutionalization index computed by Huntington's approach for political institutions based on adaptability, legitimacy, and coherence. *FD\*PI* indicates the interaction between fiscal decentralization and political institutions to measure the political institutions-led impact of fiscal decentralization on human development. Other control variables are foreign direct investment (*FDI*), income inequality (*INQ*), inflation (*INF*), and trade openness (*TO*).

### ***Measuring the Fiscal Decentralization***

The existing literature provides two ways to evaluate the impact of fiscal decentralization, revenue decentralization, and expenditure decentralization. To avoid double counting, Woller and Philips (1998) adjusted the calculations of expenditures decentralization by subtracting the expenses for defense and debt interest payments from total government expenditures. On the other hand, Martinez-Vazquez, McNab, and Timofeev (2003, 2010) developed a more comprehensive measure that considers the multifaceted aspect of decentralization. By integrating expenditure and revenue decentralization, they established a composite decentralization index, and this study uses their formula, given below:

$$FD = \frac{RD}{1-ED} \quad \text{—————} \quad (4)$$



Where *RD* refers to Revenue decentralization which measures the proportion of general government revenue from the two levels of government (provincial and local, respectively).<sup>3</sup> Revenues obtained from other levels of government, non-resident governments, and foreign organizations are not included in own revenues. The following formula is used to calculate revenues decentralization:

$$\text{Revenues decentralization} = \frac{XG \text{ own revenues}}{GG \text{ revenue}} \quad \text{—————} \quad (5)$$

*XG*= indicates the revenues at the given (*X*) level of government (provincial and local, respectively), while *GG*= indicates revenues of the general government. The portion of the revenue received as transfers from other government units, foreign governments, and international organizations are separate from its revenue.

*ED* stands for Expenditure decentralization which captures the proportion of general government spending invested in expenditures at various levels of government (provincial and local, respectively). The portion of spending transferred to other levels of government, foreign governments, and international organizations is not included in the calculation. The following formula is used to calculate expenditures decentralization:

$$\text{Expenditure decentralization} = \frac{XG \text{ own spending}}{GG \text{ spending}} \quad \text{—————} \quad (6)$$

*XG*= indicates a given level of government (provincial and local, respectively), *GG*= indicates a general government's spending. The portion of expenditure received as transfers from other government units, foreign governments, and international organizations is not included in its revenue.

### ***Measuring the Institutionalization***

Huntington's (1965, 1968) influential work on political development and political decay introduced the term political institutionalization. According to Huntington (1965), institutionalization is one of the most important aspects of political development. This study measures the institutionalization index by employing Huntington's approach to institutions. The measure is characterized by various dimensions, including adaptability,

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<sup>3</sup> We have computed two indexes: provincial level and local level.

which is measured by party age, legitimacy, total fractionalization, opposition fractionalization, number of opposition seats, and figures of government seats. Similarly, another dimension is coherence which is measured by the number of other opposition parties, the number of other opposition party seats, the opposition party having the majority in the House and Senate and legislative index of political competitiveness, executives index of political competitiveness, elected municipal executives, elected state executives, parliamentary system and proportional electoral rule [Schneider (1971); Enikolopov and Zhuravskaya, (2007)]. These indices are captured concisely under one measure of institutionalization by applying the Principal Component Analysis method.

The data is collected over the time period 1990 to 2019, and the information regarding the variables and their data sources is given in Table 3.1.

**Table 3.1**  
**Variables Description and Data Source**

<b>Variable</b>	<b>Description</b>	<b>Data Source</b>	<b>Mean (S.D)</b> <b>(Panel 1)</b>	<b>Mean (S.D)</b> <b>(Panel 2)</b>
HD	Human development index measured by life expectancy at birth, expected and mean years of schooling, and GNI	Human Development Report (UNDP, 2019)	0.63 (0.09)	0.66 (0.06)
FD	Fiscal decentralization is measured by using the composite index on revenues and expenditures decentralization.	Government Finance Statistics (GFS) IMF Data (2021) and Economics Surveys of Pakistan (various issues) (2020)	0.20 (0.23)	0.09 (0.07)
PI	Three indicators of institutionalization computed by Huntington's approach i) adaptability ii) legitimacy iii) Coherence	Author's calculation from a database of political Institutions-(DPI) (2017,2020)	-0.103 (0.96)	0.12 (1.03)
FDI	Foreign direct investment is measured by net inflows (BOP, current US\$)	World Bank Indicator (WDI)	20.16 (2.33)	20.1 (2.37)

INQ	Income inequality is measured by the Gini coefficient.	World Bank Indicator (WDI)	36.50 (5.55)	35.2 (5.26)
INF	GDP deflator (annual %)	World Bank Indicator (WDI)	63.85 (308.2)	63.53 (34.5)
TO	Trade (% of GDP)	World Bank Indicator (WDI)	4.21 (0.62)	4.34 (0.41)

### 3.3 Estimation Technique

The panel data model has the advantage of incorporating both cross-sectional and time-specific effects and provides larger sample benefits. The model specified as equations 1-3 can be estimated using the Fixed Effects and Random Effects Model depending on the relationship between the error term and the explanatory variables. The fixed effect model differs from the Common Effects but still uses the ordinary least square principle. Fixed effect assumes that differences between cross-sections can be accommodated from different intercepts. In order to estimate the fixed effects model with different intercepts between individuals, the least square dummy variable technique is used. The random effect model differs from the fixed effects model because it uses the principle of maximum likelihood or general least squares.

#### 3.3.1 Fixed Effects Model (FEM)

The fixed effect model allows intercept to vary across all cross-sectional units. However, the slope coefficient is assumed to remain the same and assumes the movement across the cross-sectional units is deterministic. The base model can be re-specified as under:

$$HD_{it} = \alpha_0 + \alpha_i + \alpha_1 FD_{it} + \alpha_2 PI_{it} + \alpha_3 \ln FDI_{it} + \alpha_4 INQ_{it} + \alpha_5 INF_{it} + \alpha_6 \ln TO_{it} + \mu_{it} \quad (7)$$

Where  $\alpha_i$  determines the country-specific terms and varies from one cross-sectional unit to another. The effects of time can also be combined into equation (8) by adding time dummies which vary across time. The model can be re-written as:

$$HD_{it} = \alpha_0 + \alpha_i + \alpha_t + \alpha_1 FD_{it} + \alpha_2 PI_{it} + \alpha_3 \ln FDI_{it} + \alpha_4 INQ_{it} + \alpha_5 INF_{it} + \alpha_6 \ln TO_{it} + \mu_{it} \quad (8)$$

Where  $\alpha_t$  defines the time effects. The time dummies are more appropriate for discussing the influence of various policy interventions and new technology adopted by the government over a period of time

### 3.3.2 Random Effects Model (REM)

Random Effects models are statistical models in which some parameters that determine the model's systematic components change randomly. Variation in observed variables is always described in systematic and unsystematic components in statistical models. The model is also known as Variance Component Model.

Random effect model can be written as:

$$HD_{it} = \alpha_0 + \alpha_1 FD_{it} + \alpha_2 PI_{it} + \alpha_3 \ln FDI_{it} + \alpha_4 \ln IQ_{it} + \alpha_5 \ln F_{it} + \alpha_6 \ln TO_{it} + \mu_{it} + w_i \quad (9)$$

Country-specific effects are treated as random in the given equation. Equation (10) provides the modified model to adjust for time-specific effects, given below:

$$HD_{it} = \alpha_0 + \alpha_1 FD_{it} + \alpha_2 PI_{it} + \alpha_3 \ln FDI_{it} + \alpha_4 \ln IQ_{it} + \alpha_5 \ln F_{it} + \alpha_6 \ln TO_{it} + v_{it} \quad (10)$$

Where  $v = \mu_{it} + w_i$  and all the components of the disturbance term in the provided model are expected to be random.

### 3.3.3 Hausman Specification Test

Hausman specification test developed in 1978 is used to select between fixed and random effect models. The Hausman test associates the fixed effect and random effect by testing the null hypothesis and suggests that if the p-value of the test is  $>0.05$ , the null hypothesis is not rejected and favors the random effect estimates. While if the p-value of the test is  $<0.05$ , the null hypothesis is rejected, which implies the Fixed Effects model is consistent. In our empirical results, the p-value is  $<0.05$ , so we rejected the null hypothesis, which means the fixed effect model is consistent and is reported and interpreted in the result section.

## 4. Results and Discussion

This section provides the empirical findings and discussion. The first section provides the results of fiscal decentralization and human development with the role of political institutions for panel 1, while the second section provides the same for panel 2.

#### 4.1 Estimation Results (Panel 1)

The empirical findings of the Fixed Effects Model (FEM), applied to the panel of countries where fiscal decentralization was measured at the provincial level, are presented in Table 4.1. The Hausman specification test exhibits the fixed effects result as valid. The results are reported for all model specifications; linear and non-linear.

**Table 4.1 Fixed Effects Estimates for HDI**

<b>Panel A: Fixed Effect Estimates</b>			
<b>Dependent Variable: Human Development Index</b>			
<b>Variables</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
<b>FD</b>	0.026** (0.014)	0.073* (0.018)	0.311* (0.069)
<b>PI</b>	0.021* (0.004)	0.064* (0.012)	0.018* (0.018)
<b>LnFDI</b>	0.020* (0.002)	0.017* (0.002)	0.016* (0.002)
<b>INQ</b>	-0.0002 (0.0009)	-0.0009 (0.0009)	-0.0007 (0.0009)
<b>INF</b>	-0.0003 (0.0002)	-0.000 (0.0002)	-0.000 (0.0002)
<b>LnTO</b>	-0.032** (0.013)	-0.025** (0.013)	-0.306** (0.012)
<b>FD*PI</b>	-	-0.827* (0.021)	-
<b>FD<sup>2</sup></b>	-	-	-0.136* (0.032)
<b>Panel B: Diagnostic Test</b>			
<b>F-Test for Fixed Effects (p-value)</b>	25.14 (0.000)	25.85 (0.000)	26.92 (0.000)
<b><math>\chi^2</math> Hausman Specification test (p-value)</b>	(0.000)	(0.000)	(0.000)
<b>B-P test for Heteroscedasticity</b>	0.05 (0.815)	0.64 (0.422)	0.30 (0.586)
<b>Mean VIF</b>	1.24	2.57	2.84
<b>N</b>	143	143	143

**Note:** (1) values in parenthesis of coefficients indicate standard error. (2) \*, \*\*, \*\*\* indicate significance at 1%, 5% & 10% respectively.

The estimation results reported in Table 4.1 show that fiscal decentralization, institutionalization, and foreign direct investment statistically positively impact human development. Fiscal decentralization promotes human development, and better institutionalization significantly improves respective countries' HDI. On the other hand, trade openness has a significantly negative effect on human development. However, income inequality and inflation appeared insignificant. Overall, the results are consistent across the equations and yields similar sign for corresponding coefficients, and are as per expectations.

The interactive role of political institutions with decentralization is reported in equation (2) which appears with a statistically significantly negative sign. As the interactive variable is not directly observable, we have delineated its role by computing its marginal effect at the mean value and the 10<sup>th</sup>, 25<sup>th</sup>, 50<sup>th</sup>, 75<sup>th</sup>, and 90<sup>th</sup> percentile of institutionalization, presented in Figure 4.1.

**Figure 4.1 Marginal effect of Fiscal decentralization on Human development at various Percentiles**

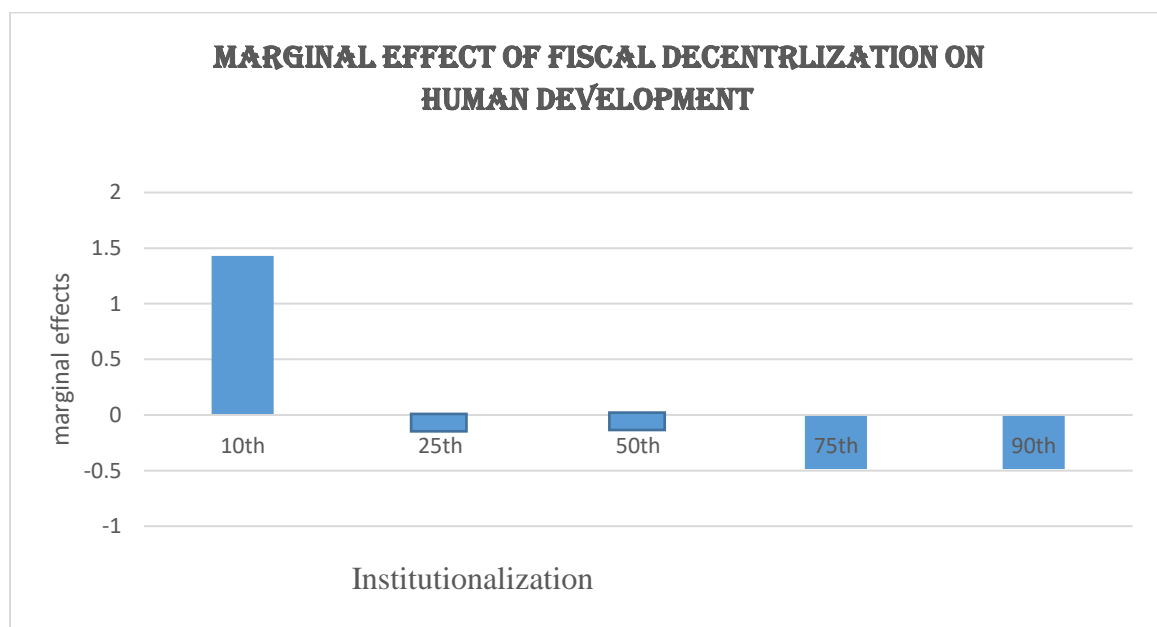


Figure 4.1 shows that as we move on to higher percentiles of political institutions, which refers to higher institutionalization, the effect of fiscal decentralization on human development tends to decline, which might be due to extreme autonomy, as the measurement of institutionalization depicts. This might also be due to the fact that fiscal decentralization at the provincial level with lower managerial capacity and lack of coordination between provincial and central government hinders the potential impact of decentralization on human development.

Besides, foreign direct investment positively influences human development because a country with higher foreign direct investment leads to higher gross domestic product and can provide better facilities of goods and services to its citizens, which will increase their standard of living. The findings are consistent with Gökmenoğlu et al. (2018). Conversely, trade openness has a significantly negative effect on the HDI of the selected panel. The findings are not novel as the higher trade openness makes competition for local producers stiffer, on the one hand, and leads to excessive imports on the other, which imbalances the trade balance and eventually discourages human development from the channel of economic growth that is also supported by previous studies by Faridi et al. (2019).

The non-linear association between fiscal decentralization and human development with the role of institutionalization at the provincial level is provided in Equation 3 of Table 4.1. Fiscal decentralization has a positive while its square term has a negatively significant effect on HDI, which shows that the effect of decentralization measured at the provincial level tends to increase but at decreasing rate. The optimal level computed from equation 3 yields the value 1.143.<sup>4</sup> The findings are further elucidated by Figure 4.2, which compares the optimal value level of fiscal decentralization with the average value at the country level.

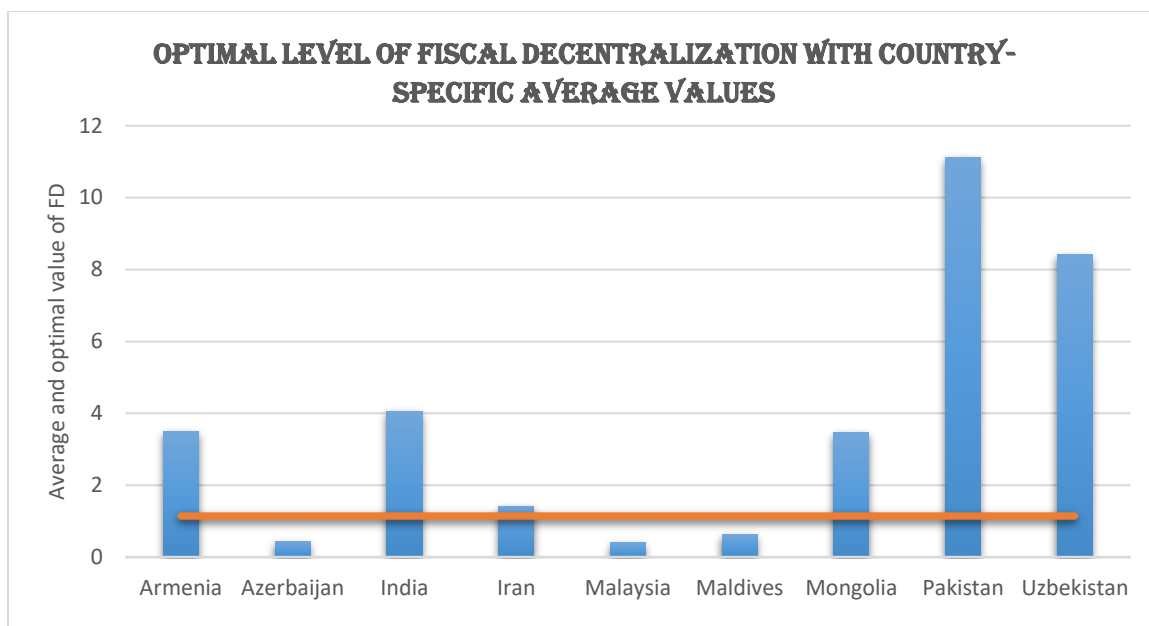
**Figure 4.2 Comparison of Optimal level of Fiscal decentralization (FD) with Average Value**

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$${}^4 HD_{it} = \gamma_1 FD_{it} + \gamma_2 FD_{it}^2$$

$$\frac{\partial HD_{it}}{\partial FD_{it}} = 0.311 - 2 * (0.136)FD_{it} = 0$$

$$FD = 1.143$$



Source: Author's calculation from Government Finance Statistics (GFS) IMF Data and Economic Survey of Pakistan (2021)

Figure 4.2 shows that Armenia, India, Iran, Mongolia, Pakistan, and Uzbekistan are above the optimal level, possibly due to resource misutilization and mismanagement at the provincial level.

#### 4.2 Estimation Results (Panel 2)

The empirical results of the Fixed Effects Model (FEM) for the sample of countries from Panel 2 are presented in Table 4.2. Again, the Hausman Specification test exhibits the fixed effects result as valid. Overall estimation results reported in Table 4.2 exhibit that fiscal decentralization, foreign direct investment, income inequality, inflation, and trade openness statistically impact human development. Fiscal decentralization promotes human development, and the institutionalization index is key in improving HDI in the selected sample. Foreign direct investment is also a significant determinant of human development. Unlike results for Panel 1, institutionalization has no promising role in determining human development, neither in isolation nor as an interaction with fiscal decentralization.

**Table 4.2 Fixed Effects Estimates for HDI**

<b>Panel A: Fixed Effect Estimates</b>
<b>Dependent Variable: Human Development Index</b>



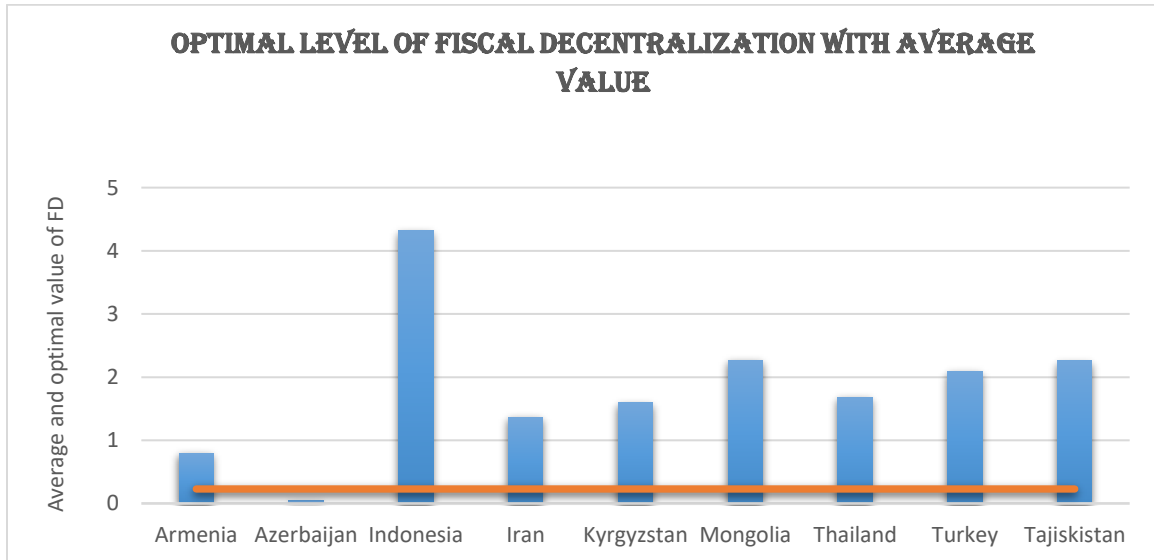
Variables	(1)	(2)	(3)
<b>FD</b>	0.121** (0.065)	0.121** (0.065)	0.773* (0.196)
<b>PI</b>	0.002 (0.003)	0.001 (0.006)	0.004 (0.003)
<b>LnFDI</b>	0.021* (0.002)	0.021* (0.002)	0.016* (0.002)
<b>INQ</b>	-0.002** (0.001)	-0.002** (0.001)	-0.002* (0.001)
<b>INF</b>	-0.0005** (0.0003)	-0.0005** (0.0003)	-0.0005** (0.0003)
<b>LnTO</b>	-0.056* (0.017)	-0.056* (0.017)	-0.061* (0.017)
<b>FD*PI</b>		0.015 (0.062)	
<b>FD<sup>2</sup></b>			-1.687* (0.481)
<b>Panel B: Diagnostic Test</b>			
<b>F-Test for Fixed Effects (p-value)</b>	17.59 (0.000)	14.9 (0.000)	18.03 (0.000)
<b><math>\chi^2</math> Hausman Specification test (p-value)</b>	(0.000)	(0.000)	(0.000)
<b>B-P test for Heteroscedasticity</b>	1.49 (0.222)	1.49 (0.222)	3.48 (0.062)
<b>Mean VIF</b>	1.27	2.26	3.13
<b>Observations</b>	157	157	157

**Note:** (1) values in parenthesis of coefficients indicate standard error. (2) \*, \*\*, \*\*\* indicate significance at 1%, 5% & 10% respectively.

The non-linear relationship between fiscal decentralization and human development with the interactive role of institutionalization is reported in equation (3) of Table 4.2, where fiscal decentralization appears positively significant while negative for its square term. This indicates a rising HDI with decentralization but at a decreasing rate, as in Panel 1. Our results are relatable with Soe et al. (2015), who concluded that fiscal decentralization above a particular level might discourage human development. Generally, fiscal decentralization allows local governments to utilize their resources fully to improve efficiency. However, this can pressure public spending and increase predatory intergovernmental competitiveness resulting in lower performance on the HDI front. An adequate institutional and political environment is required to effectively pursue the goals of high human development for decentralization. The computed threshold supports the conclusion, that is,

0.229, and its comparison with the country's average further elucidates the result, presented in Figure 4.3.<sup>5</sup>

**Figure 4.3 Comparison of Optimal level of Fiscal decentralization (FD) with Average Value**



Source: Author's calculation from Government Finance Statistics (GFS) IMF Data.

Comparing the optimal value of fiscal decentralization in developing Asian countries, figure 4.3 shows Armenia, Indonesia, Iran, Kyrgyzstan, Mongolia, Thailand, Turkey, and Tajikistan are above the optimal value.

Regarding other results, FDI is also a major determinant of human development in Panel 2, while trade openness negatively affects HDI, like Panel 1, for the same justification. Inflation and income inequality have a negative effect on human development, as both reflect the country's poor economic standings, which ultimately leads to lower social welfare. Leal (2021) reported similar findings for income inequality.

The findings from the two-panel countries conclude that fiscal decentralization at provincial and local levels has a favorable impact on human development, with the optimal value of 1.143 and 0.229, respectively. However, institutionalization for the first panel has

<sup>5</sup> The same formula is applied to compute the optimal level, as is mentioned in the results for Panel 1, reported in footnote 4.

significance while remaining insignificant for the second panel, for which fiscal decentralization at the local level was controlled. Now, we turn to the overall conclusion and policy suggestions.

In principle, political institutions can improve human development by allowing independence of information and political privileges that can further enhance the general public welfare. However, its role is not well established for both datasets.

## **5. Conclusion and Policy Implications**

This study attempts to measure the impact of fiscal decentralization on human development with the role of political institutions in selected Asian developing countries for the time period 1990 to 2019, employing the Fixed Effects Model. The empirical findings depict that fiscal decentralization at both levels, i.e., provincial and local are positively significant in developing countries, demonstrating a rise in human development in the wake of fiscal decentralization. Subnational governments are expected to function efficiently because of their close connection to the individuals and communities and have access to additional information, which enables them to respond accordingly. As suggested by Akpan (2011), fiscal decentralization is associated with a lower mortality rate and a higher literacy rate. Additionally, according to Faridi et al. (2020), each provincial government usually spends revenues according to sub-national level requirements and priorities which can raise the proficiency of the health and education sector. Hence, in developing countries, fiscal decentralization can be effectively used to provide public service delivery efficiently. Depending on the strengths of the national party system and whether local and provincial executives are appointed or elected, fiscal decentralization affects social and economic development, public goods provision, and government quality in different ways (Enikolopor & Zhuravskaya, 2007).

Furthermore, the findings from the study suggest a non-linear relationship between fiscal decentralization and human development. The results show a rising HDI but at a decreasing rate due to increased fiscal decentralization at both the provincial and local levels. Similarly, the interaction term of political institutions and decentralization posits a favorable impact at a moderate level of institutionalization. The reason behind this might

be the exploitation and misuse of authority and excessive power on the available resources, which negatively affects human development, as provided by Pose and Ezcurra (2010).

Moreover, based on empirical findings, the study suggests that proper implementation of fiscal decentralization is essential for Asian countries because it can increase the efficiency of the public sector resulting in a boost in human development, and it is essential for governments to strengthen their institutions through appropriate policy measures to make the process of institutionalization impactful.

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