

Nexus between political federalism, social diversity and human development in India

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Abstract. *This paper tries to track the degree of causation between economic outcomes and political polarization and finds the roadmap of the role of state's decision-making process under the process of fiscal federalism considering select major states in India. Several composite indices like 'fractionalization index' and 'polarization index' consisting interrelated parameters have been constructed to verify the impact of religious diversity, government coalition, political concentration on the state's budgetary process and thus in state's economic development. A dynamic panel-data framework has been conducted to understand the causality between political concentration and economic outcomes. It has been established significant inverse relationship between social and political polarization and economic outcomes. Women representation makes the governance efficient and thus increases the democratic decentralization in the process.*

Keywords: fractionalization, social diversity, political federalism, economic development, panel data analysis.

JEL Classification: D72, O53, Z12, O15.

1. Introduction

Achieving an optimal economic outcome under political and social polarization has always been a complex occurrence as public choice deals with consensus of social and political polarization. It has always been debated upon whether political polarization has any impact on the economic growth of a country. Polarization is described as a systematic characteristic that mainly considers groups as the crucial actors; an isolated individual would therefore have little power in the terms of social polarization (Esteban and Ray, 2008). This concept of polarization is mainly applicable not only to analysis of socio-economic outcomes, but also analysis of conflict, as decision making process involves identification of an issue within the own group and distancing oneself from one or several other competing groups. Polarization creates a greater degree of homogeneity within each group. Polarization in social structure and in political structure can question the existence of democratic system in some ways. Theoretically, polarization leads more towards centralized choice function and therefore it can bring in inefficiency in process of resource allocation for the society, provision of public goods and rights to other political goods for the citizens. Since the last decade, there has been a rise in political polarization across the globe due to the rise of religion-based politics, and ethnic diversity. The rise in racial and ethnic diversity has been contributing to social and political conflicts. The impact of political polarization on democracy, fiscal federalism, social capital, and economic growth has been captured through various empirical studies (Enyedi, 2008; Enyedi, 2016 and LeBas, 2018). The expectation of economic outcomes under political polarization, political instability, social structural variations lead to uncertain conclusions. Different systems face various challenges due to the adverse impact of political polarization on democracy, poor inter-state relations and social surplus. Few have claimed that a significant degree of political polarization sometimes benefits democracy and strengthens political parties because of effective self-reliant long-term governance. However, the effectiveness of vertical fiscal federalism becomes partially ineffective due to the social polarization, disruptive center-state relationship. Eventually, sustainable development across the countries continues to be uneven, (UNCTAD, 2019). It has been stated that there can be a moral hazard problem with the fiscal transfer system under multi-tier federal structure, which makes the fiscal discipline slack, Rao (2002, 2005). It has also been identified that how political competition and political instability at sub-national levels influence the budgetary performance of various economies (Polo, 1998; Damania and Yalcin, 2008, Dash and Mukherjee, 2015). Further, studies have provided evidence that the effect of polarization based on religion and inequality have significant influence on economic development than the impact of ethnic fragmentation on economic outcomes (Montalvo and Reynal-Querol, 2003). However, it is utmost important to understand how these growth trajectories are affected by divergence in socio-political choices at least at national and sub-national levels for a country. Political competition affects the effectiveness of policy implementation and reduces the welfare generation as the growth-promoting policies have been given more priority than need based policies (Besley et al., 2010). The provision of public goods gets scattered due to the skewed political concentration (Svensson, 2005). Mehdi and Siddiqui (2020) showed a negative effect of polarization on the economic growth of developing countries and an inverse relationship between polarization and social

capital exists. There is a significant negative impact of ethnic fragmentation and polarization on economic growth that has been observed through a cross country study (Papyrakis & Mo, 2014).

In context of India, the federal structure has been distributed across national, state, and local governments and the autonomy provided to the states for revenue generation and allocation of public goods and services following the fiscal decentralization since the implementation of the Constitution 73rd and 74th Amendment Acts⁽¹⁾. The determination of provision of public good is difficult and complex in nature, given the multi-tier federal structure of the country. Study evidence bears out a huge inter-state inequality in terms of human development and other economic outcomes in India unlike the other developed federal structure such as Canada, USA, Australia and EU (Kelkar, 2019). The variation in fiscal performance at the subnational level in any multi-tier country like India is the outcome of interrelated factors. The role of intergovernmental fund transfer is a key factor in this context. It depends on structural, political and economic and social dynamics. Federalism always has been developing through social and political challenges. Central transfers deals with both vertical and horizontal fiscal imbalances (Boadway and Shah 2007). The inter-governmental transfer should be determined based on fiscal health of the state and the economic situation of all the regions periodically should be evaluated to reduce regional gaps.

On the other hand, the socio- economic inequality along with ethnic diversity across different regions brings in different ideologies which makes the country politically diverse in nature. Further, religious, or caste-based concentration risks political competition in a democratic set up and disturbs perfect electoral governance. Social breakups based on religion acts as instrumental in choosing the political representatives and create disparity through reducing the democratic electoral process and reduces equitable social inclusion and disturbs the trajectory of economic development (Dash and Mukherjee, 2015). In India, state wise disparity in revenue generation capacity, government spending and variations in public services indicate violation of the principle of “horizontal equity” or “equal treatment of equals” in federal structure. The changes in federal structure after 1990s reform and growing diversity in political system and polarization in the social structure, attract the investigation of the impact of these factors in the development. However, the question remains how ethnolinguistic variation influences the political and economic outcomes under this complex federal structure. There is no second opinion that it might not be politically viable in India to bring in remedial adjustment in such a way that allows richest state to offset the fiscal incapability to decrease the increasing disparities (Rao, 2017). As a result, central transfers and grants to the states based on the recommendations of the Finance Commissions became very crucial for the long run development of the states. The trend of disparity in central transfers leads to mounting variations in infrastructure levels and human development causing divergence of incomes across Indian states. Studies accept as true that political centralization should exist along with fiscal federalism to function it with better communication and cooperation where multi-structure government can either foster or reduce growth. The central government however is assumed to foster growth through proper central transfer and tax sharing schedule according to the demand which can come through political centralization (Blanchard and Shleifer, 2001). The divergence

in the performance of the Indian states attracts more attention of the researchers. Reynal-Querol (2002) advocate that the cultural heterogeneity effects various outcomes through hindering economic growth due to conflicts in decision making process which eventually generates disparity in redistribution and brings in inefficiency in effective implementation of provision of public goods. There is empirical evidence of connection between political competition with socioeconomic performance for Indian states (Besley and Burgess, 2002; Chhibber and Nooruddin, 2004; Keefer and Khemani, 2005; Ghosh, 2010). These studies indicated that a few Indian states like Kerala corroborated that a perfect political competition improves democratic accountability and the quality of governance for the states. Moreover, it has been empirically established that a productive political rivalry places more priority towards access to health and education for better socioeconomic output. An empirical analysis of Mukherjee and Chakraborty (2011) has shown that Indian states have been experiencing varied trajectories of economic performance estimated in terms of HDI score along with significant variation in the degree of political competition. In the federal system, political geography as well as the identity of political affiliation matter for public good provision. The politicians' group identity and the nature of the elected representation are very important as far as the public goods spillover effect is concerned (Besley, et al., 2004). It is an utmost need to discuss how does reforms take place through a complex institutional process in federal structure including the ethnic and religion-based diversity, different political objectives by national and subnational governments. There is a role of share of political representatives from the states and coalition between center and regional parties. However, this point needs enough evidence and thus is still subject to debate. A detailed analysis of the determining factors for human development and the degree of association between political concentration and fiscal federalism for human development for an emerging economy should be the priority to understand the potential and net effective development of the economy. In this study, we try to explore the relationship among the fractionalization, political and religious polarization, effective number of political party representative, political stability, women participation in political decision making and human development index for 15 major states in India to empirically validate the existing literature and to have proper road map for better governance for policy intervention through and welfare generation. In the next section, we discuss the model set up, parameter selection, and data source for the empirical estimation.

2. Data and Methodology

An efficient and fair and democratic election process is a very complicated event and depends on a set of economic and social factors (e.g. caste, feudalism, coercion/fear), as well as political alliances. Multiple occurrences of election process in a short-term period head to political instability and political instability destroys economic freedom. However, democracy is such a thing which might push back the political stability and ethnic homogeneity a bit as it leads to polarization. Altun (2016)'s cross country empirical study claimed that the political instability creates social unrest and thus a country should be able to develop an effective governance and political leadership where economic outcomes are maximized.

To measure political stability of the states, we consider few variables, viz., number of elections, regime changes⁽²⁾ as well as the effective number of political parties⁽³⁾. As we need to observe the relationship between political instability, ethnic fractionalization, and economic growth, we have compiled the data on number of Chief Ministers elected per year for all select states to capture the political stability scenario across states. The number of Chief Ministers elected per year is considered to measure regime change and thus to refer to political instability referring '1' as extreme stability.

Gini coefficient has been estimated based on the state's per capita GSDP and population share. The estimated Gini coefficient⁽⁴⁾ refers the increasing inequality present across states.

Table 1. *Gini Coefficient*

Gini Coefficient	1991	2001	2011
With Population Weightage	0.23	0.23	0.24

Source: Authors' calculation from RBI and Census India, 1991, 2001 and 2011.

Based on available secondary data, we construct the composite indices to determine fractionalization, polarization and religious dimensions for the select states following the measure prescribed by McDoom and Gisselquist (2016) in order to explore their impact on progress of the states.

$$HHI = \sum_{k=0}^n (S_k)^2 \quad (1)$$

S_k = Seat share of party k in power

HHI = Herfindahl- Hirschman Index⁽⁵⁾

$$ENP = \frac{1}{HHI} \quad (2)$$

The index lies between 1 and infinity. Value 1 denotes that one political party won majority and it is in power. Whereas, if it is more than 1, it refers to alliance of multiple political parties in government. The share of the Members of Parliaments from states in national government has been considered to measure degree of decision-making power in the federal political structure. The higher the shares, the larger the decision-making power of the state at lower house.

The women participation in political power acts as important factor for efficient governance and thus more democratic process in decision-making system as far as political structure is concerned. We consider the number of women representatives in the assembly to measure the gender-based inclusion in a democratic set up.

For social institutions, the fractionalization index and polarization index⁽⁵⁾ are constructed to measure the diversity and polarization in the society.

$$\text{Fractionalization index} = 1 - \sum_{i=1}^n (\text{Share of } i^{\text{th}} \text{ religion in total population})^2 \quad (3)$$

$$\text{Polarization index} = 1 - \sum_{i=1}^n \left(\left(\frac{0.5 - \text{Share of } i^{\text{th}} \text{ religion in total population}}{0.5} \right)^2 \times \right. \quad (4)$$

$$\left. \text{Share of } i^{\text{th}} \text{ religion in total population} \right)$$

The fractionalization index and polarization index lie between 0 and 1. The zero value of fractionalization index means there is no diversity or exists polarization. While the value 1 denotes that the society is more diversified. It is similar to polarization index. Here the population share based on religion has been considered. The data have been extracted from the Census of India for various years. Here we consider the typical exponential growth rate for estimation of projected population. Further, variables like net capital formation and numbers of factories produced are used to measure the infrastructure development of the states. These data have been compiled from RBI handbook for Indian states. Human development index has been constructed as composite index considering three major sectors, viz., education, income, and health indicators⁽⁶⁾. Here, we consider literacy rate as measure of education, life expectancy rate as a measure of health status and per capita GSDP as income of the state.

$$II \text{ (Income Indicator)}^{(8)} = \frac{(\text{Per capita GSDP})_i - (\text{Per capita GSDP})_{\text{minimum}}}{(\text{Per capita GSDP})_{\text{maximum}} - (\text{Per capita GSDP})_{\text{minimum}}} \quad (5)$$

$$HI \text{ (Health Indicator)} = \frac{(\text{Life Expectancy rate})_i - (\text{Life Expectancy rate})_{\text{minimum}}}{(\text{Life Expectancy rate})_{\text{maximum}} - (\text{Life Expectancy rate})_{\text{minimum}}} \quad (6)$$

$$EI \text{ (Education Indicator)} = \frac{(\text{Literacy rate})_i - (\text{Literacy rate})_{\text{minimum}}}{(\text{Literacy rate})_{\text{maximum}} - (\text{Literacy rate})_{\text{minimum}}} \quad (7)$$

The indices are estimated based on a simple distance formula. Here, the lowest and highest values are taken from the given values of Indian states for every year in such a way that the estimated value of indicator is considered as '0' for the state with lowest value and '1' for the state with maximum value.

Finally, a simple average of three based indicators is used to compute the HDI.

$$\text{Human Development Index (HDI)} = \frac{II+HI+EI}{3} \quad (8)$$

Data related to life expectancy rate for Indian states is taken from Sample Registration System which is available with RBI as well as NITI Ayog. Literacy rate and per capita GSDP for Indian states is extracted from RBI, handbook on Indian states. The research is focused on the Indian states (excluding the union territories, northeast states and national capital). After 1991, a few new states like Chhattisgarh, Uttarakhand, Telangana were created. These states have not been included in the analysis due to unavailability of time series data. The major fifteen states are considered for this analysis.

Here in this data series, the number of years is higher compared to the number of states taken for the study. Therefore, a Robust Arellano–Bover/Blundell–Bond linear dynamic panel-data estimation has been applied (Arellano and Bond, 1991; Arellano and Bover, 1995) to track the time variant and time invariant impact of all mentioned factors on Human Development Index. To mention, model misspecification test has been applied at the beginning of the analysis⁽⁷⁾.

Model 1:

$$\begin{aligned} \text{HDI}_{it} = & \beta_0 + \beta_1 \times (\text{ENP})_{it} + \beta_2 \times (\text{POL})_{it} + \beta_3 \times (\text{FRAC})_{it} + \beta_4 \times \\ & (\text{Number of CM per year})_{it} + \beta_5 \times (\text{MP}_{\text{share}})_{it} + \beta_6 \times \\ & (\text{Women Representatives Share})_{it} + \beta_7 \times (\text{ENP})_{i(t-1)} + \beta_8 \times (\text{POL})_{i(t-1)} + \beta_9 \times \\ & (\text{FRAC})_{i(t-1)} + \beta_{10} \times (\text{Number of CM per year})_{i(t-1)} + \beta_{11} \times (\text{MP}_{\text{share}})_{i(t-1)} + \\ & \beta_{12} \times (\text{Women Representatives Share})_{i(t-1)} + \beta_{13} \times \text{HDI}_{i(t-1)} + \beta_{13} \times \\ & \text{HDI}_{i(t-1)} + \varepsilon_{it} \end{aligned} \quad (9)$$

Model 2:

$$\begin{aligned} \text{HDI}_{it} = & \beta_0 + \beta_1 \times (\text{ENP})_{it} + \beta_3 \times (\text{FRAC})_{it} + \beta_4 \times \\ & (\text{Number of CM per year})_{it} + \beta_5 \times (\text{MP}_{\text{share}})_{it} + \beta_6 \times (\text{ENP})_{i(t-1)} + \\ & \beta_8 \times (\text{POL})_{i(t-1)} + \beta_9 \times (\text{FRAC})_{i(t-1)} + \beta_{10} \times (\text{Number of CM per year})_{i(t-1)} + \\ & \beta_{11} \times (\text{MP}_{\text{share}})_{i(t-1)} + \beta_{12} \times (\text{Women Representatives Share})_{i(t-1)} + \beta_{13} \times \\ & \text{HDI}_{i(t-1)} + \beta_{13} \times \text{HDI}_{i(t-1)} + \varepsilon_{it} \end{aligned} \quad (10)$$

Model 3:

$$\begin{aligned} \text{HDI}_{it} = & \beta_0 + \beta_1 \times (\text{ENP})_{it} + \beta_2 \times (\text{POL})_{it} + \beta_4 \times \\ & (\text{Number of CM per year})_{it} + \beta_5 \times (\text{MP}_{\text{share}})_{it} + \beta_6 \times \\ & (\text{Women Representatives Share})_{it} + \beta_7 \times (\text{ENP})_{i(t-1)} + \beta_8 \times (\text{POL})_{i(t-1)} + \\ & \beta_9 \times (\text{FRAC})_{i(t-1)} + \beta_{10} \times (\text{Number of CM per year})_{i(t-1)} + \beta_{11} \times \\ & (\text{MP}_{\text{share}})_{i(t-1)} + \beta_{12} \times (\text{Women Representatives Share})_{i(t-1)} + \beta_{13} \times \\ & \text{HDI}_{i(t-1)} + \beta_{13} \times \text{HDI}_{i(t-1)} + \varepsilon_{it} \end{aligned} \quad (11)$$

Table 2 presents descriptive statistics for various variables related to political dynamics and socio-economic indicators. The data, spanning from 1991 to 2019 with 435 observations, showcases the mean, standard deviation, minimum, and maximum values for each variable. The effective number of political parties exhibits considerable variation, with a mean of 420.36 and a notably high standard deviation of 8670.08. Polarization, averaging 0.69, indicates significant polarization, while fractionalization, with a mean of 0.43, reflects moderate diversity. The number of chief ministers shows an average of 1.30, suggesting a relatively instable government structure. MP share, with an average of 0.47, indicates a substantial presence of political federalism. Women's representation, averaging at 0.07, suggests a lower proportion of female participation in politics. Lastly, the Human Development Index (HDI) demonstrates a mean of 0.70, indicating moderate to high levels of overall socio-economic development across the observed years.

Table 2. Descriptive Statistics

Variable	Observations	Mean	Std. Dev.	Min	Max
Year	435	2005	8.376	1991	2019
ENP	434	420.36	8670.08	1	180625
POL	435	0.69	0.26	0.15	1
FRAC	435	0.43	0.19	0.08	0.72
Number of CM in year	435	1.30	0.51	0	3
MP Share	435	0.47	0.33	0	1
Women representation	434	0.07	0.03	0.01	0.14
HDI	390	0.70	0.12	0.33	0.95

3. Result and Analysis

Political polarization indicates the scale of the variance of attitudes toward political matters in a society and might in turn vary on the evolution of economic outcomes. The political polarization appears to move hand in hand with economic polarization. As shown in table 3, there is a strong correlation between polarization and fractionalization index.

Table 3. *Correlation Matrix*

	Effective Number of Parties	Polarisation	Fractionalisation	Share in MP	Women representation
Effective Number of Parties	1				
Polarisation	-0.018	1			
Fractionalisation	-0.030	0.951	1		
Share in MP	-0.060	-0.060	-0.072	1	
Women Representatives	-0.052	0.335	0.335	0.184	1

Table 4 presents the results of a dynamic panel data analysis with three different specifications, all with time-specific effects, to explore the factors influencing the Human Development Index (HDI). The dependent variable, HDI, is represented by lagged values (L.HDI and L2.HDI) in each model. The independent variables include fractionalization, polarization, share in Members of Parliament (MP), effective number of parties, women representation, and their lagged counterparts.

Model 1 indicates that fractionalization positively impacts HDI, while polarization negatively affects it. The share in MP, effective number of parties, and women representation do not show significant effects.

In Model 2, the impact of polarization diminishes, becoming statistically insignificant, while fractionalization still maintains a positive association with HDI.

Model 3 further refines the analysis by adjusting coefficients. Fractionalization remains positively significant, but polarization loses its significance. The share in MP displays a negative effect on HDI, suggesting that an increased share may hinder human development.

Additionally, the constant term represents the intercept when all independent variables are zero. The Wald chi-squared statistic tests the joint significance of all coefficients, indicating highly significant results in each model.

Table 4. *Dynamic Panel Data Analysis with three Specifications with time specific effects*

Variables	Model 1	Model 2	Model 3
L.HDI	0.888*** (0.078)	0.909*** (0.078)	0.909*** (0.078)
L2.HDI	0.018 (0.067)	0.001 (0.069)	0.006 (0.069)
Fractionalization	0.175*** (0.062)	0.063 (0.050)	
L.Fractionalization	-0.135** (0.063)	-0.063 (0.049)	
Polarization	-0.039** (0.020)		-0.005 (0.023)
L. Polarization	0.021 (0.020)		0.004 (0.021)
Share in MP	-0.001 (0.002)	-0.001 (0.002)	-0.001 (0.002)
L. Share in MP	0.008	0.001	0.001

Variables	Model 1	Model 2	Model 3
	(0.001)	(0.001)	(0.001)
Effective Number of Parties	$7.96 * 10^{-8} **$	$8.19 * 10^{-8} ***$	$8.22 * 10^{-8} ***$
	$(3.11 * 10^{-8})$	$(3.16 * 10^{-8})$	$(3.19 * 10^{-8})$
L. Effective Number of Parties	$1.49 * 10^{-7} ***$	$1.50 * 10^{-7} ***$	$1.50 * 10^{-7} ***$
	$(3.59 * 10^{-8})$	$(3.59 * 10^{-8})$	$(3.61 * 10^{-8})$
Women Representation	0.012	0.010	0.008
	(0.033)	(0.035)	(0.036)
L. Women Representation	0.010	0.016	0.021
	(0.023)	(0.024)	(0.024)
Constant	0.993**	0.524	0.572
	(0.480)	(0.479)	(0.460)
Wald chi2 (Prob > chi2)	$4.92 * 10^{10}$ (0.00)	$8.89 * 10^{10}$ (0.00)	$6.08 * 10^{10}$ (0.00)
Observations	345	345	345
Number of states	15	15	15
Control for Time Specific Effect	Yes	Yes	Yes

Robust standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The Arellano-Bond test results affirm the robustness of the Arellano–Bover/Blundell–Bond linear dynamic panel-data estimation method used in this analysis (table 5). The significant z-statistics and low p-values at the first order indicate the presence of serial correlation in the first-differenced errors, which is a key assumption of this estimation method. However, the non-significant results at the second order suggest that the model adequately addresses this autocorrelation up to the second lag. Therefore, these findings support the reliability and validity of the dynamic panel-data estimation approach employed in the study, enhancing confidence in the results and conclusions drawn from the analysis.

Table 5. Arellano-Bond test for zero autocorrelation in first-differenced errors

Order	Model 1		Model 2		Model 3	
	z	Prob>z	z	Prob>z	z	Prob>z
1	-2.944	0.003	-2.915	0.004	-2.979	0.003
2	1.574	0.115	1.665	0.096	1.677	0.093

Table 6 presents the results of dynamic panel data analysis with three different specifications, this time without time-specific effects. The dependent variable is still the Human Development Index (HDI), represented by lagged values (L.HDI and L2.HDI) in each model.

In Model 4, fractionalization continues to positively influence HDI significantly, while polarization negatively affects it. The effective number of parties also demonstrates a significant positive association with HDI.

Model 5 reveals similar trends, with fractionalization and the effective number of parties maintaining their significant positive impacts on HDI. However, polarization now shows a positive significant effect on HDI, which is contrary to the previous models.

In Model 6, fractionalization and the effective number of parties still positively influence HDI significantly, while polarization exhibits a negative significant impact.

Interestingly, the share in Members of Parliament (MP) does not demonstrate significant effects across all three models. Additionally, women representation does not show consistent significant effects on HDI.

The Wald chi-squared statistic tests the joint significance of all coefficients, indicating highly significant results in each model. However, it's important to note that without time-specific effects, the results may vary compared to models that account for such effects.

Table 6. *Dynamic Panel Data Analysis with three Specifications without time specific effects*

Variables	Model 4	Model 5	Model 6
L.HDI	0.771*** (0.049)	0.763*** (0.049)	0.786*** (0.054)
L2.HDI	0.061 (0.038)	0.065* (0.037)	0.061 (0.039)
Fractionalization	0.209*** (0.028)	0.124*** (0.023)	
L.Fractionalization	-0.170*** (0.024)	-0.096*** (0.021)	
Polarization	-0.069*** (0.015)		0.048*** (0.018)
L. Polarization	0.059*** (0.012)		-0.033** (0.016)
Share in MP	-0.001 (0.002)	-0.001 (0.001)	-0.001 (0.002)
L. Share in MP	0.001 (0.002)	0.002 (0.002)	0.002 (0.002)
Effective Number of Parties	$6.38 * 10^{-8}$ ($4.40 * 10^{-8}$)	$6.27 * 10^{-8}$ ($4.28 * 10^{-8}$)	$9.02 * 10^{-8}$ *** ($3.34 * 10^{-8}$)
L. Effective Number of Parties	$1.18 * 10^{-7}$ *** ($3.87 * 10^{-8}$)	$1.18 * 10^{-7}$ *** ($3.75 * 10^{-8}$)	$1.41 * 10^{-7}$ *** ($2.79 * 10^{-8}$)
Women Representation	0.009 (0.049)	0.007 (0.051)	0.006 (0.055)
L. Women Representation	0.017 (0.039)	0.011 (0.041)	0.018 (0.045)
Constant	0.115*** (0.015)	0.116*** (0.016)	0.103*** (0.016)
Wald chi2 (Prob > chi2)	146215.30 (0.00)	200412.37 (0.00)	36287.85 (0.00)
Observations	345	345	345
Number of states	15	15	15
Control for Time Specific Effect	No	No	No

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

The test results satisfy the robustness of Arellano–Bover/Blundell–Bond linear dynamic panel-data estimation (table 7).

Table 7. *Model 4*

Order	Model 4		Model 5		Model 6	
	z	Prob > z	z	Prob > z	z	Prob > z
1	-2.711	0.007	-2.707	0.007	-2.801	0.005
2	0.672	0.502	0.577	0.564	0.786	0.432

In model 1, lagged HDI, ENP, lagged ENP, Fractionalization index, lagged fractionalization index, polarization index, lagged polarization index, number of CM per year have statistically significant impact on HDI but when polarization index is drop or fractionalization index is dropped, only lagged HDI, ENP, lagged ENP and number of CM per year shows the significant impact on the HDI. ENP and ENP lagged have positive and significant impact on the HDI. ENP shows the degree of coalition in government. If it is high, then more parties are forming the government. Therefore, when a government is formed by many parties which have different ideologies, followers, that government becomes more inclusive rather than becoming a monopolized government. Therefore, due to the inclusive nature, such government can make the policies for all set of people rather than focusing on just one part of the population. It supports the argument of non-monopolized democratic government where when single parties dominate, then there is a less space for inclusive development while there is no dominant party then inclusive development can be achieved. Country wise empirical studies have already established that there exists a significant linkage between political stability and economic growth. A robust rule is associated with the fact that low level of political stability makes significant negative impact on economic growth as decision making process gets polarized. However, with good governance, the impact of political stability provides good economic outcomes. Here, in the current study, we have considered the number of CM selections per year as a measure of political stability of the state. The result signifies a negative and significant impact on human development. Moreover, it has already been observed that ethnic fragmentation and lack of political stability affects economic growth. It was discovered that ethnic fractionalization reduces the pace of economic development by accelerating political instability in a country. Hence results establish that political instability is detrimental for human development which is justified as well. Our analysis validates the hypothesis for lagged values of HDI as well. Therefore, the causality exists not only for the current period, but previous periods are also responsible in creating the spiral impact. Another most important issue is the tracking the variation in share of central transfers is the most important component in determining the efficiency of fiscal federalism. Theoretically, fiscal decentralization should improve the degree of state's self-reliant capacity through proper mechanism of revenue generation mapped with expenditure need for the respective governments in the long run. Specifically, in the practice of accomplishing sound fiscal health at subnational level, it is essential to confirm an appropriate management of own revenue. However, in our study the variable 'central transfer' has been dropped from the analysis as it was bringing in huge correlation with other variables like polarization and fractionalization. This itself signifies the causality of these variables in the framework. Further, fractionalization index shows the diversity in beliefs which can lead to political conflicts in the economy.

In case of India, minorities have fair political representation at every level due to political reservation. Pande (2003) finds that political reservation for minorities benefits the minority through increase in the spending. Such kind of practices can reduce conflicts due to diversity and benefit the economy. The results show that diversity has significant positive impact on current HDI but in long run it can have negative impact. For polarization, it is showing negative impact on the HDI. Polarization is harmful for those who are in the

minority. They can face the barriers while accessing public goods in the highly polarized society. But there is no individual significant impact of the fractionalization as well as polarization index because when one variable is dropped, then the other loses its significant impact. It has been established by Montalvo and Reynal-Querol, (2003) that religious polarization and diversity have a greater impact on economic development than ethnic fragmentation and further, Brzezinski, (2013) supported the claim through the cross-country evaluation.

4. Conclusion

This research aims to comprehensively investigate the influence of political coalitions and religious diversity on human development. It delves into the theoretical underpinnings of how political and social structures shape development outcomes. Emphasizing the pivotal role of political decision-making mechanisms, the study highlights the adverse effects of delays in such processes on development trajectories. Furthermore, it underscores the social costs associated with heightened social polarization while advocating for inclusive politics as a driver of inclusive development. The findings underscore the significance of political stability, inclusiveness, and effective decision-making in determining developmental outcomes across various Indian states. It is recommended that institutions must be constructed and restructured to stabilize the government. Monopolized government i.e. government formed by one party with absolute majority is not good for human development but even if more parties are forming the government, parties should encourage dialogues among themselves so that there won't be any lags in the decision-making system as well in the process of the implementation.

Notes

- (1) The Indian Constitution establishes a federal structure to the Indian government, declaring it to be a "Union of States" where part XI of the Indian constitution specifies the distribution of legislative, administrative and executive powers between the Central government and the States of India. The power and functions are allocated between states and center.
- (2) Jong-A-Pin (2009) uses these factors to measure the political instability.
- (3) See Laakso and Taagepera (1979).
- (4) Corrado Gini develops the Gini Coefficient in 1912. See Gini (1912). It is a ratio of the area between the equitable line and Lorenz curve to the area below equitable line i.e. the ratio of 0.5 minus area below Lorenz curve to the 0.5.
- (5) Esteban and Ray (2008) give the polarization and fractionalization indices.
- (6) See Human Development Report 2018.
http://hdr.undp.org/sites/default/files/2018_human_development_statistical_update.pdf
- (7) As per capita GSDP is used in calculating the HDI, the components of GSDP (C+I+G and C+S+T i.e. consumption, investment, government spending, saving, revenue etc.) are not used as controlled variable in the model as the differences in these components are already being captured in dependent variable HDI. As dynamic model is implemented, theoretically, the lag of HDI would control for such factors.

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