

INDIA'S PATH TO HUMAN DEVELOPMENT: WHY PARTY AFFILIATION IS AT THE  
CENTER OF INDIA'S HDI STORY

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# INDIA'S PATH TO HUMAN DEVELOPMENT: WHY PARTY AFFILIATION IS AT THE CENTER OF INDIA'S HDI STORY

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## ABSTRACT

In this paper, I explore the politics behind human development levels across different states in India. Previous research has found strong correlation between fiscal transfers from the Central Government and the states of political interest for the party in power at the Center, namely, the states where it is in power, the states where its coalition partners are in power, and the states which do not have its main opposition in power but are of political interest to the Central Government. I build up on this research to show that these transfers are a result of bargains between the Center and the states, which not only affects transfers but also regional policies of the state governments. I show that these bargains that result in differentiated fiscal transfers and regional policies have a combined effect of the rate of change of Inequality-Adjusted Human Development Index, wherein the states with parties in power that are not the leading party of the national coalition are likely to see a greater rate of increase in the rate of human development than the states with the Leading Parties in power. I also find that these trends not only have a short-term effect but because of lasting impact of policy decisions, they tend to have a more significant impact in the long term.

In the memory of my Father, who will forever be an inspiration for me.

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## INTRODUCTION

In 1991, India introduced economic reforms that liberalized the economy and resulted in sustained economic growth. While the reforms caused an immediate spur to economic growth, there was also a long-term impact as the country's annual average GDP growth rate grew from 5.57 percent between 1991 to 2000, to 7.59 percent between 2001 to 2010 (World Development Indicators). However, human development, as measured by the country's score on the United Nation's Human Development Index, has failed to see a similar increase – India's score on HDI rose from 0.439 in 1990 to only 0.554 in 2012. Indeed, today, the third largest economy in the world is ranked 131 in the world on the Human Development Index.

In the two decades after liberalization, India's limited rise in human development has also seen great regional variation. While this variation was present prior to liberalization as well, in the post-1991 era the center-state relations became critical in determining the progress of the states on various indicators of HDI. This was because in post-colonial and pre-liberalization India, the central government formed an interventionist state that promoted vertical competition between states for central resources. In a highly-regulated economy, states sought the location of prestigious public sector firms in their regions. But in the post-reform period, the interactions between states and the Center saw increased bargains and an evolution of the political system into a more horizontal competition for resources to ensure smooth governance (Sinha, 2004).

However, economic liberalization was not merely a process of opening the Indian economy to globalization. It had political repercussions as well because the decision to liberalize the economy was widely contested. However, once the reforms were passed, they also reordered the center-state relationships wherein opposition to economic reforms shifted from national politics to

state politics, especially the states that stood to lose from the economic reforms (Sinha, 1991) (Jenkins, 1999). Hence, despite liberalization lifting archaic regulations that limited free trade and privatization, the state governments continued to oversee crucial economic factors such as land, power, and other infrastructural facilities which incentivized some states to instead put more regulations and raise regional revenues through taxes (Sinha, 2004). The Karnataka government, for instance, was able to raise resources in this way, justifying new taxes on coffee growers on the principle that those who benefit from economic reforms should be prepared to contribute resources for the welfare of the poor.” (Jenkins, 1999)

Hence, to truly liberalize the economy, which was the national agenda and hence the priority of both national parties – Bhartiya Janta Party (BJP) and Indian National Congress (INC) – they had to increasingly rely on states to see their agenda through. This was one of the main reasons for a change in relationship between the states and the center as the states had a lot more control over resources than prior to liberalization. This led states to focus more on regional issues and adopt differentiated development strategies depending upon how well they bargained with the Center (Sinha, 2004). Such bargaining has largely been in the domain of fiscal transfers and policy implementation, both of which have a direct impact on human development.

In this paper, I seek to study how such bargaining, in the new center-state political framework, has impacted the rate of change of human development across Indian states after 1991. I show that post-1991, Indian states bargained with states on both policy implementation and fiscal transfers, wherein the Center’s preferences are guided by political benefits as well as the need to push the national economic agenda centered around liberalization. I assert that states that perform better on human development are the states that bargain better with the center and

implement policies that focus on regional development and I prove with empirical analysis that these states are likely to be governed by parties other than the leading party at the center. My analysis is divided into the following sections – Section 1 provides a background to the increased relevance of regional politics in national governance and the role of human development in political campaigns. Section 2 will present a conceptual framework for my analysis. Section 3 will focus on description of the data used in this study. In Section 4, I will present my empirical model and analyze the results of the model while in Section 5, I will check my model for robustness. In Section 6, I will discuss the implications of my results, policy prerogatives considering these results, and suggestions for future research. I finally conclude in Section 7 with a brief conclusion.

## **BACKGROUND**

While some economists have argued that economic growth has a positive effect on human development (Neutel & Heshmati, 2006), there also exists a counter effect of human development on economic growth. Ramirez et al point to a close relationship between human development and economic growth in developing countries with strong flows in both directions (Ramirez, Ranis, & Stewart, 1998). Such trends have also been noticed in post-liberalization India where two-way causality between human development and economic growth has been reported (Ghosh, 2006). Furthermore, post economic reforms significant inter-regional disparities in India in standards of living have also been noted ( (Kurian, 2000); Singh et al (2003)). This combination of two-way causality and the inter-regional disparities has contributed to different rates of growth and development across states in India after liberalization in 1991.

But states in India, not only saw a different path to economic growth and development in the post-liberalization era, they also saw a change in dynamics of their relationship with the Central

Government. Evidence suggests that economic liberalization policies in the 1990s prompted a change in inter-state relationships from intergovernmental cooperation towards inter-jurisdictional competition among the states (Saez, 2004). This had political repercussions as well and resulted in significant political decentralization in the party system, electoral system, and the structure of coalition governments (Kollman & Chhibber, 2004). The party system underwent considerable changes from the INC being the single largest party to several smaller regional parties playing a critical role in national politics. In fact, it was not until 2014, after a gap of 30 years, that a single party (BJP) government was elected to power.

These political transformations have had a considerable impact on economic growth throughout India as resource allocation has become more politicized. Different studies ((Biswajit and Marjit 2000), (Dasgupta, Dhillon, & Dutta, 2001), (Rao & Singh, 2002) have used bargaining models to assess the impact of politics on budgetary allocations for the states. The explanatory variables used in these studies include the ideological leanings of parties in power and the degree of political stability, the proportion of the ruling party's members of Parliament (lower house only) coming from each state, the number of cabinet ministers from each state, a dummy variable measuring whether the same party was in power at the Center and in the state receiving the transfers, and a measure of the closeness of each state's legislative assembly election. And broadly, all studies suggest that political influence of a state, as measured by its representatives in central government, its relevance for reelection of the party in power at the Center, and its political alignment with the party in power, matters in center-state bargaining and determining the patterns for central transfers.

Such bargains then define which states benefit the most by the Central Government's policies and the development model that is pursued by the national government. Critical to these transactions are equalization grants by the center wherein the Center taxes the rich states to distribute resources to the poorer states. While they help bring some parity in resource allocation and are preferred by poorer states, richer states feel that they are being taxed for being prosperous. It is important to note that the Central Government prefers the equalization grants as well because it gives the Centre the allocative powers. However, such choices by the Central Government also result in protracted and problematic coordination between the Centre and several richer states. (Sharma, 2010)

This, then, leads to a process of decision making at the Center which is more driven by political expediency than development concerns. These political calculations are further complicated by the federal structure which ensures that voters hold both the central and the state government accountable for the lack of development. In politically important states, that is states that are crucial for reelection for the party in power at the Center, the Central Government is unlikely to enforce fiscal discipline for the fear of voter backlash and provide such states with excess resources at the cost of other states. And given the continuous flow of money, the state governments of such politically important states are also rarely incentivized to practice fiscal discipline (Khemani, 2002).

However, if the voter backlash is not likely to affect the fortunes of the party in power at the national level, the regional government may have more accountability towards the center for the use of resources. As a report by the Center for Budget and Governance Accountability notes, "many of the budgetary proposals/ policies are deliberate political choices of the government in

power. The decisions about collection of tax revenue from different sources within the country, public expenditure on the different areas/ services, and even those about deficits and debts, are often based on political strategies and they favor certain sections of the society” (CBGA, 2007).

Accordingly, various winners and losers have emerged since the economic reforms were introduced. The evidence suggests that states with greater bargaining power over center, either due to their political importance or economic importance, tend to receive greater per capita transfer (Singh & Vasishtha, 2004). I use this literature on political bargains in India to develop a conceptual framework to determine the impact of national and regional politics on human development in the states of India.

#### **CONCEPTUAL FRAMEWORK: HUMAN DEVELOPMENT AND INTER-GOVERNMENTAL POLITICS**

The economic reforms and the evolution of the federal system in India has resulted in states pursuing a more regionalized version of human development. Instead of opposing the national liberalization agenda, they have regionalized it to reap the economic benefits while controlling the state economy enough to drive welfare benefits as well. As a result, state elections after economic reforms are increasingly contested on the promises of human development and welfare of the marginalized in the region with promises to tax the rich and subsidize the poor. Uttar Pradesh, the largest state in India, is a great example of this shift towards politics of development after 1991. While in the ‘80s and early ‘90s, the state elections were dominated by identity politics of caste and religion, there was a visible change in electoral promises which now focused more on the human development agenda, primarily poverty. This was considering the increased powers for the states after the economic reforms and while politics in the state continues to have a caste agenda,

it is unmistakably wrapped in a package of human development (Singh & Kumar, 2012). Similarly, in a much more advanced city-state of New Delhi, the Aam Aadmi Party came to power with a whopping majority of 67 out of 70 state legislature seats. The political promises on which the campaign was designed were primarily a reduction in costs of electricity and provisioning of free drinking water (Bakshi, Makkar, & Sethi, 2015). Similar trends can be seen in various elections in Tamil Nadu, Maharashtra, West Bengal and many other states (Chakrapani, 2015), (Jog, 2014), (Roy, 2011), (Dutta, 2011), (IANS, 2012).

However, to meet their electoral promises, states turn to the Center to meet the gaps in resources available to them. This is where regional parties, as coalition members in the national government, often pull their weight. As Sinha notes, “Tamil Nadu experienced political instability within the state in the 1990s, but the regional political elite took advantage of a fortuitous political alignment at the center. The ruling regional parties—DMK and AIADMK—were coalition partners of the ruling party at the center at different times in the 1990s. This political connection at the center proved to be crucial for Tamil Nadu’s policy of liberalization. The parties bargained for economic policy-related cabinet positions and DMK party member Murasoli Maran became the minister of commerce and industry. This allowed the state government to benefit from increased access to information and interaction with foreign investors” (Sinha, *The Changing Political Economy of Federalism in India: A Historical Institutionalist Approach*, 2004).

On the other hand, state units of national parties tend to succumb to the national mandate when its state priorities differ from those of the national high command. This is applicable to both politics and policies. For instance, in 2001, in the run in to the state elections in Tamil Nadu, the Indian National Congress struck a seat-sharing agreement with Tamil Maanila Congress (TMC),

a regional party in Tamil Nadu. However, the state unit of INC was unhappy with the agreement and thought that the party deserved a greater share of seats. The party members attempted to express their feelings publicly and break the agreement. “But, they desisted from doing so following a warning from the local MP, Mr. Manishankar Aiyer, that stern action would be taken against those indulging in activities which might affect the prospects of the coalition” (Venkatasubramanian, 2001). Similar compliance with the national units of political parties can also be seen at the policy front. For instance, the BJP government that came to power in Haryana in 2014, promised to implement the recommendations of the Swaminathan Commission report to set the minimum support price at 50 per cent higher than the cost of cultivation. However, the state government continued to struggle to deliver on its promise with the lack of support from the Central Government (BJP) (Thukral, n.d.).

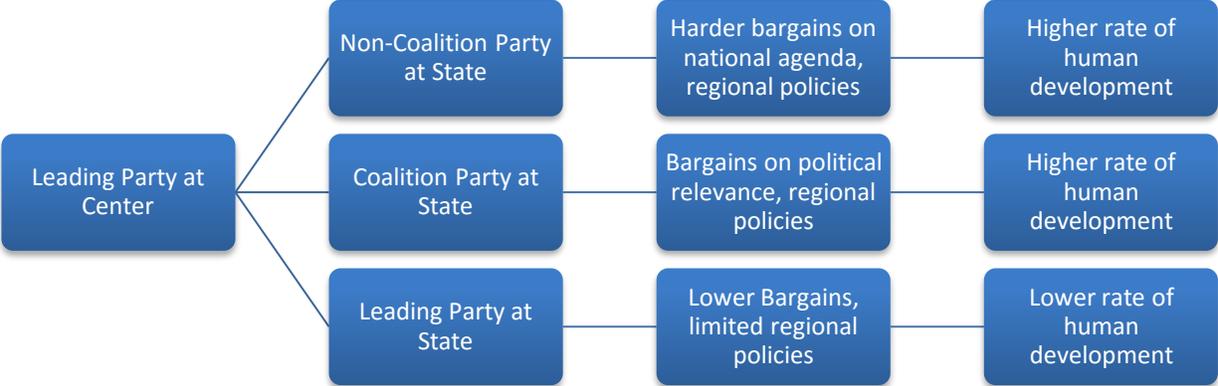
So, not only are fiscal transfers affected by political affiliation (Dasgupta, Dhillon, & Dutta, 2001), (Rao & Singh, The political economy of Center-State fiscal transfers in India. In Institutional Elements of Tax Design and Reform, 2002) , but politics and public policy at the state level is also driven by political games between the state and the Central Governments as political loyalty comes into question. States with the Leading Party of the coalition at the Central Government in power often buy into national government’s reforms at the expense of their regional interests as opposed to smaller regional parties that form the coalition or the opposition parties.

Hence, bargaining between states (with parties in power other than the Leading Party at the Center) and the Center has played a critical role for the adoption of national policies. One policy that captures such bargaining is India’s biggest-ever tax reform – the Goods and Services Tax (GST) introduced by the BJP government in 2014. GST sought to remove several state level taxes

on the sale of goods and services and replace it with a single tax to unify the entire country's market as a single market. This was crucial for BJP to fulfill its electoral promise of economic growth and job creation. The states also stood to gain as it implied increase in productivity for its businesses. However, this policy was in the making for over 10 years before it passed the vote in the parliament. Working with the coalition government, the INC found it difficult to negotiate a deal with either the regional parties in its coalition or with the opposition. This was because INC did not hold power in enough states in India and the regional parties along with the BJP did not want to see their states lose revenue that would come in from an inefficient tax system, even though overall productivity suffered (Live Mint, 2009). But when the BJP government came to power at the center, with enough state power across the country and having learned the lessons of deal making in the failed Land Acquisition Bill negotiations, it sought to work with regional parties as well as the INC, the main opposition party. In a series of negotiations with TMC in West Bengal, AIADMK in Tamil Nadu, and Janta Dal (United) in Bihar, along with INC at the center, it scrapped the previously planned 1% levy on the movement of goods between states, while more importantly, agreed to compensate the states for losses in revenue for the first five years of the bill (Singh & Kumar, 2016).

The discussion above signifies two things – a) The Central Government policies have increasingly become dependent on state governments post the economic reforms of 1991; and b) because of that, the regional and opposition parties tend to drive the hardest bargains while state governments with the Leading Parties at the center tend to support the national policies, and sometimes even fail to deliver on their electoral agenda because the state needs may not be in line with the Central Government's priorities. As has been noted in the Background section, these

bargains have a direct impact on the capacity of a state government to serve its people and hence the state’s score on the Human Development Index. Consequently, for this paper, I test the hypothesis that states with parties in power different from the leading party of the coalition government at the Center, i.e. either the parties that form the coalition with the Leading Party and the non-coalition parties, will see a greater rate of improvement in its human development score. Below is a brief diagram that summarizes this conceptual framework:



To test this hypothesis, I have created a dataset that captures transition of power in 27 states in India between 1991 and 2011 along with their HDI scores and other relevant variables. I have described these data below.

## DATA DESCRIPTION AND SUMMARY STATISTICS

The purpose of this paper is to test whether states with parties in power that are not the leading party at the Center see a rate of increase in human development. For the two decades after economic liberalization, India has seen a slow rise in its human development score along with a great variation across the states which has been built on significant differences in standards of living. To account for this variation, I use the Inequality-Adjusted Human Development Index (IHDI)<sup>a</sup> (Mukherjee, Chakraborty, & Sikdar, 2014) as opposed to the UNDP's Human Development Index. The IHDI also has the added advantage of being available at the interval of five years; as opposed to the HDI figures that are only available at 10-year intervals.

I also constructed a dataset from publicly available information on parties in power to signify in each state in any given year the political affiliation of the party in power in relation to the leading party of the government at the Center. I divide this dataset in four indicator variables – Leading Parties, Coalition Parties, Affiliation, and Non-Coalition Parties. The variable Leading Parties takes the value of 1 if the party in power in any given state is the same as the leading party in a coalition government at the center. If a government in any state is a coalition government, I consider the party of the Chief Minister of the state as the party in power at the state level. The

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<sup>a</sup> The Inequality Adjusted Human Index, instead of using real GDP per capita like UNDP, uses inflation and inequality adjusted average monthly per capita expenditure (MPCE) of a state. The MPCE data is first adjusted inequality using State-wise *Gini* Ratios of MPCE. The inequality adjustment is important because a State characterized by high average MPCE with lower Gini Ratio is better off as compared to a State with higher average MPCE with higher Gini Ratio, and that perspective needs to be factored in.

The composite indicator on educational attainment is derived with the help of two variables, namely: literacy rate for the age group of 7 years and above and adjusted intensity of formal education (Gross Enrolment Ratios). The underlying logic is that literacy rate being an overall ratio alone may not reflect the actual scenario, and the drop-out ratio must be factored in.

Finally, the Composite indicator on health attainment is constructed by considering two variables, namely - Life Expectancy (LE) at age one and the inverse of Infant Mortality Rate (IMR) (Mukherjee, Chakraborty, & Sikdar, 2014)

indicator variable is 0 for any of the other combinations of governments. The variable Coalition Parties takes the value 1 if the party in power in any given state is also one of the parties in a coalition government at the Center besides the Leading Parties of the coalition. The variable is 0 for all other combinations of governments. The variable Affiliation is also an indicator variable that sums the previous two variables – Leading Parties and Coalition Parties. So, Affiliation is 1 if the party in power in any given state is also part of the government at the Center, be it as a single party or as a Coalition Parties, and is 0 if the party in power at the state level is not part of the government at the center. The variable Non-Coalition Parties is the opposite of Affiliation with the variable being 0 if the party in power at the state level is part of the government at the Center and is 1 if the party if power at the state level is not part of the government at the Center. I also combine the indicator variables Coalition Parties and Non-Coalition Parties to create another indicator variable Parties Other Than Leading Party.

I further expand my dataset to include control variables. I include figures on literacy rate, population, and access to safe drinking water (Planning Commission, Government of India), which are available on 10 year intervals; infant mortality rate (Ministry of Health and Family Welfare, Government of India), net state domestic product at factor cost (Reserve Bank of India), net state domestic product per capita at factor cost (Reserve Bank of India), which are all available for each year between 1991 to 2011. Table 1 presents a summary of all the data used in this study:

**Table 1: Summary Statistics.**

<b>Variables</b>	<b>N</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Min</b>	<b>Max</b>
States	567	14.00	7.80	1	27
Year	567	2001.00	6.06	1991	2011
IHDI	135	0.36	0.21	0.05	1.00
Leading Parties	567	0.29	0.45	0	1
Coalition Parties	567	0.10	0.29	0	1
Non-Coalition Parties	567	0.62	0.49	0	1
Leading Party + Coalition Parties	567	0.38	0.49	0	1
Parties Other Than Leading Party	567	0.70	0.38	0	1
Literacy Rate	81	66.82	13.55	37.49	93.91
IMR	512	44.04	22.98	4.00	103.00
Access to Safe Drinking Water	75	68.42	21.06	16.20	97.60
Log (GDP)	533	26.57	1.60	22.59	29.58
Log (Pop)	78	16.51	1.74	12.92	19.11

### **EMPIRICAL STRATEGY**

As can be noticed in Table 1, the data has only 135 observations for IHDI, while the number of observations for literacy rate, population, and access to safe drinking water variables are 81, 78, and 75 respectively. Additionally, as noticed in the last section, the years for which IHDI figures are available and the ones for which the figures for literacy rate, population, and access to safe drinking water are available, differ. To overcome this, I calculate the annualized rate of exponential growth for literacy rate, population, and access to safe drinking water. While I lose variation in these variables by using this method, it is a widely-accepted method for population studies as well as a method that the Government of India in its census surveys uses to ascertain yearly figures from decadal figures (Sudhira & Gururaja, 2012), (Government of India, 2011). Below is the formula that is used to calculate the Annualized Rate of Exponential Growth.

$$\text{Annualized Rate of Exponential Growth} = \left[ \left( \frac{X_{t+n}}{X_t} \right)^{\frac{1}{n}} - 1 \right]$$

where,  $X_t = \text{Value at time period } t$

$X_{t+n} = \text{Value at time period } t + n$

I use this rate to calculate the missing values between 1991 and 2001 and between 2001 and 2011.

I then collapse the values for each of the independent variables in my dataset around the means of the years for which the IHDI data is available plus the two years before the year of interest and the two years after. For instance, to calculate IHDI corresponding values for the year 1993 for the independent variables, I use the values from 1991 to 1995 to obtain their averages. This allows me to work with the IHDI corresponding values of the independent variables without losing much of the variation in the data. This reduces my number of observations for each state and the revised summary statistics have been represented in Table 2 below:

**Table 2: Summary Statistics. (Collapsed)**

Variables	N	Mean	Std. Dev.	Min	Max
States	108	14	7.83	1	27
Year	108	2001	5.96	1993	2009
IHDI	108	0.35	0.21	0.05	1.00
Leading Parties	108	0.30	0.38	0	1
Coalition Parties	108	0.09	0.21	0	0.80
Non-Coalition Parties	108	0.61	0.37	0	1
Leading Party + Coalition Parties	108	0.39	0.37	0	1
Parties Other Than Leading Party	108	0.70	0.38	0	1
Literacy Rate	108	67.08	11.95	39.24	93.29
Access to Safe Drinking Water	101	68.58	20.25	19.13	97.60
IMR	103	43.23	21.60	5.75	95.40
Log (NSDP)	106	26.57	1.62	22.74	29.44
Log (Population)	105	16.52	1.72	12.97	19.08

These are the final variable that I will be using. I begin by looking at general trends and variation among states and years.

Figure 1 (below) represents the IHDI scores of all the states over the years. The X-axis represents all states and the four years under consideration at 5-year intervals. Not only do different states have different starting points, their rates of growth (slopes between the points) tend to differ. However, most states are better off since 1993, signifying a general increase in IHDI. Given the general rise in human development levels, I shift focus from change in human development to the rate of change of human development, or for ease of reference, IHDI Rate where IHDI Rate is defined as:

$$IHDI\ Rate = \frac{IHDI_t - IHDI_{t-1}}{IHDI_{t-1}}$$

where  $t$  refers to any year.

I use the following baseline specification in my analysis

$$IHDI\ Rate_t = \beta_0 + \beta_1(Parties\ Other\ Than\ the\ Leading\ Party)_{i,t-1} \\ + \beta_2(Control\ Variables)_{i,t} + \eta + \tau + \varepsilon$$

where,  $\eta = State\ Level\ Fixed\ Effects$

$\tau = Time\ Fixed\ Effects$

$\varepsilon = Error\ Term$

I run the above equation for an OLS regression controlling for time and state fixed effects.

The results of the regression are below:

**TABLE 3: State and Time Fixed Effects with Robust Standard Errors.**

VARIABLES	IHDI Rate
Parties Other Than Leading Party (Lagged)	0.260** (0.104)
Literacy Rates	-0.0156 (0.0222)
IMR	0.00108 (0.00965)
Access to Safe Drinking Water	0.00114 (0.0114)
Log (Population)	-2.015 (1.441)
Log (NSDP)	0.280 (0.392)
Constant	26.77 (19.71)
Observations	77
Number of states	26
R-squared	0.301

Robust standard errors in parentheses

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

The coefficient on Parties Other Than Leading Party is positive and highly significant at 5 per cent level of significance, i.e., *states with parties in power other than the leading party at the central coalition are likely to see an average increase in the IHDI Rate by 0.26 percentage points more than the states with the leading party of the national coalition in power over five years, all else being equal*. The result supports my hypothesis that when parties besides the leading party of the coalition at the center form state governments, the states tend to bargain better for greater fiscal transfers and more regionally focused policies which results in higher human development gains in these states as opposed to states where the government in power is the leading party at the center. It is important to note that the results are significant when the variable for Parties Other Than Leading Party is lagged. In the dataset, this implies an average difference of five years. This entails that human development gains are long term in nature and changes in government policies have a long-lasting impact on human development.

Importantly, the coefficients of the control variables are all insignificant. I read this as the result of the loss of variation in these variables while calculating the annualized rate of exponential growth. This is the shortcoming of my dataset that I explain in the Discussion section.

## **ROBUSTNESS CHECKS**

### **Disentangling the Non-Leading Party Effect**

To test the robustness of my model, I divide the variable “Parties Other Than Leading Party” into two variables – Coalition Parties, i.e. parties that are part of the national coalition besides the leading party of the coalition, and Non-Coalition parties, i.e. parties that are not part of the national coalition, in Table 4.

In the first specification, the coefficient on coalition parties is no longer significant but the coefficient on non-coalition parties is still significant at 5 per cent. *The states that have parties in power that are not part of the national coalition tend so see an average increase in IHDI Rate by 0.262 percentage points more than the states with the leading party of the national coalition in power over five years, all else being equal.*

In the second specification in Table 4, I drop the variable on coalition parties and test for the effect of not being part of the coalition. The coefficient of non-coalition parties drops in significance but is still significant at 10 per cent level of significance. *The states that have parties in power that are not part of the national coalition tend so see an average increase in IHDI Rate by 0.226 percentage points more than the states with the leading party of the national coalition and the coalition parties in the national coalition in power over five years, all else being equal.*

**Table 4: State and Time Fixed Effects with Robust Standard Errors. (2)**

	(1)	(2)
VARIABLES	IHDI Rate	IHDI Rate
Non-Coalition Parties (Lagged)	0.262** (0.121)	0.226* (0.126)
Coalition Parties (Lagged)	0.257 (0.151)	
Literacy Rate	-0.0156 (0.0225)	-0.0168 (0.0210)
IMR	0.00102 (0.0104)	-0.000631 (0.0103)
Access to Safe Drinking Water	0.00117 (0.0115)	0.00482 (0.0111)
Log (Population)	-2.012 (1.449)	-1.698 (1.331)
Log (GDP)	0.279 (0.394)	0.178 (0.357)
Constant	26.76 (19.82)	24.21 (18.39)
Observations	77	77
R-squared	0.301	0.277
Number of states	26	26

Robust standard errors in parentheses

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

### **Heteroscedasticity, Serial Correlation, and Contemporaneous Correlation**

I also perform tests for heteroscedasticity (Modified Wald Test for Group-Wise Heteroscedasticity), serial correlation (Cumby-Huizinga Test for Autocorrelation), and Contemporaneous Correlation (Friedman's Test). To control for heteroscedasticity and serial correlation, I have reported all my results with robust standard errors in Table 3 and Table 4 wherein the results for my variables of interest are still significant.

For contemporaneous correlation in the data, I run Prais-Winsten regressions on all three models in this study. and I report correlated Panels Corrected Standard Errors (PCSEs) in Table 5,

controlling for both time and state fixed effects. The Prais-Winsten regressions in Table 5 show an increased significance for Parties Other Than Leading Party, wherein it is significant at 1 per cent level of significance. The coefficient in Table 5 (Specification 1) increases as well with *states with parties in power other than the leading party in the central coalition are likely to see an average increase in the IHDI Rate by 0.286 percentage points more than the states with the leading party of the national coalition in power over five years, all else being equal*. These results are consistent with the results of my initial model from Table 3, again signifying that parties that do not lead governments at the center are able to drive a higher IHDI rate at the state level. Interestingly, I find significance for both non-coalition and coalition parties as well.

**Table 5: Prais-Winsten Regression, Correlated Panels Corrected Standard Errors.  
(Controlling for State and Time Fixed Effects)**

	(1)	(2)	(3)
VARIABLES	IHDI Rate	IHDI Rate	IHDI Rate
Parties Other Than Leading Party (Lagged)	0.286*** (0.0303)		
Non-Coalition Party (Lagged)		0.283*** (0.0349)	0.221*** (0.0510)
Coalition Party (Lagged)		0.300*** (0.0912)	
Literacy Rate	-0.0122 (0.0176)	-0.0121 (0.0171)	-0.0143 (0.0203)
IMR	-0.000918 (0.00406)	-0.000788 (0.00385)	-0.00119 (0.00383)
Access to Safe Drinking Water	0.00455 (0.00964)	0.00447 (0.00977)	0.00737 (0.0101)
Log (Population)	-1.636* (0.928)	-1.642* (0.916)	-1.398 (0.923)
Log (NSDP)	0.427 (0.845)	0.430 (0.845)	0.387 (0.807)
Constant	18.12 (36.07)	18.16 (36.14)	14.87 (33.30)
Observations	77	77	77
R-squared	0.561	0.561	0.544
Number of states	26	26	26

Standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

So, while my data is unbalanced, I use robust standard errors and Prais-Winsten regressions to account for panel level heteroscedasticity, first order serial correlation within each panel, and contemporaneous correlation due to cross-sectional dependence in the data. My results are significant across models and the significance increases to a highly significant 1 per cent level of significance when controlling for different forms of correlation. This is to suggest that differences in political affiliation at the center and state levels has a positive effect on the rate of change of human development. As the party affiliation variables are lagged, the effect of such differences in

party affiliation are seen in the long-run. This is because while party affiliation might affect financial receipts of a state as has been established by prior research, it also affects, more importantly, the policies of a state which have a long-term impact. Hence, I find that data from states of India strongly support my hypothesis and theory as presented in the Conceptual Framework section of this paper earlier.

## **DISCUSSION AND POLICY IMPLICATIONS**

### **Data Limitations and Other Empirics**

**Limitations of Using Inequality Adjusted Human Development Index:** While IHDI for states in India is a better measure than HDI, given the variation among states as well as the fact that IHDI was calculated by its authors for roughly every five years as opposed to the HDI which is calculated every 10 years. However, it also implies that it accounts for multiple variables for each of the components of HDI – education, health, and income. While I have used variables for all three, this analysis could have been more robust if the data on all the components of IHDI were more readily available. With the availability of such data, my analysis will also have captured the variation in control variables which gets lost due to annualized rate of exponential growth used to construct the dataset.

**Literacy Rate and IHDI:** My results also show a negative correlation of literacy rates with IHDI Rate. This seems counterintuitive but it must be noted that the relationship of literacy rates with overall IHDI scores is still positive. It is the relationship with IHDI Rate that turns negative. To explore this relationship further, I used a squared term for literacy rates which had a positive

coefficient – suggesting that literacy rates contribution to rate of change of IHDI is decreasing at an increasing rate.

**Table 6: State and Time Fixed Effects with Robust Standard Errors. (3)**

	(1)
VARIABLES	IHDI Rate
Parties Other Than Leading Party (Lagged)	0.240** (0.105)
Literacy Rate	-0.129* (0.0746)
Literacy Rate Squared	0.000993* (0.000579)
IMR	-0.000245 (0.00943)
Access to Safe Drinking Water	0.00102 (0.00975)
Log (Population)	-1.748 (1.125)
Log (NSDP)	-0.126 (0.424)
Constant	36.23** (15.83)
Observations	77
Number of states	26
R-squared	0.347

Robust standard errors in parentheses  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

This should not be surprising as we expect literacy rates to contribute less and less to rate of increase of human development as human development continues to rise, while aspects such as schooling, health, and income become more important. It is also worth noting that IHDI scores that I use for my analysis include both literacy rates and intensity of formal education as measured by gross enrolment ratios. My data does not allow for such comparison because while literacy rates

are only available at year intervals, gross enrolment figures are only available for 10 out of 21 years of analysis (2001 to 2010).

**Future Areas of Research:** Because of how my dataset has been organized with several observations for different control variables being calculated through the annualized rate of exponential growth, as has been pointed out above in the section on Empirical Strategy, some of the control variables lose their variation and hence their significance in the model. While the purpose of this paper was to understand the effect of party affiliation and its impact of state level human development, it will be interesting to see how different components of the IHDI impact the rate of change of IHDI. As was noted above, literacy rate, at higher levels of human development, contributes negatively towards IHDI Rate. I expect to see that relationship change when education includes intensity of formal education as well. But even accounting for all the components of the IHDI, we might observe that education, health, and income affect the rate of change differently.

### **Policy Implications**

**Rate of Change versus Change in Absolute Scores:** I follow prior international models (Kosack & Tobin, 2015) that focus on rate of change of HDI as opposed to absolute change in HDI. For India, that is a crucial policy consideration. For the fastest growing economy in the world, it has lagged considerably in its performance on human development. National policy, hence, could focus on mitigating factors that increase the rate of change of human development as opposed to simply the components of HDI.

**National Policy versus State Policy:** One major implication of the results of this paper, besides identifying the impact of political affiliation on human development, is to signify that states that

have parties in power with regional priorities not only bargain better but also formulate more regionally focused policies that positively impact long term performance on HDI indicators. It must, then, also be a pointer to national governments to help state governments to develop capacity for improving human developments standards, as opposed to trying to push a singular national development agenda. Too often state governments, lacking capacity to design policies, tend to look at the national government for direction. As the results of this paper suggest, the next direction that the national government should give to the state government should be to think for themselves.

**Money Matters, but So Does Policy:** Prior research on political economy of fiscal transactions between the Central Government and the state governments has been well established. States that have the Leading Parties in power as the party at the Center, or the states that are politically important to the leading party in power at the Center, tend to receive more funds from the Center than the states that do not fit that description. However, that does not seem to influence the rate of change of IHDI. In fact, as this research points out, the states with parties in power that are not the leading coalition party at the center tend to increase their rate of change of IHDI. This might very well be down to an expectation of electoral rewards in general elections of good performance on human development. That would explain better bargains for states with non-coalition parties. But, besides bargaining, which may not always be successful, they also have no obligation to follow the national agenda and hence think for themselves and about their regional problems. This results in state policies that focuses on the needs of the state and hence state programs that work to meet those needs.

## CONCLUSION

In this paper, I explore the politics behind human development across different states in India to find that the politics of Center-State relations plays an unexpected role in human development. I use qualitative research and anecdotal evidence to build the hypothesis that states with parties in power that are not the leading party of the coalition at the Center are more likely to see an increased rate of human development than the states with the leading party of the national coalition in power. I control for health, education, income, and population in my models to find positive and significant results for my hypothesis across different models. I explain this as the effect of the focus of state and national election campaigns on human development as well as bargaining and policy making at the state level. There is overwhelming evidence that political parties come to power on promises of development but their incentives to whether to buy into the national government's agenda, which has stakes beyond any specific state, depends upon whether the party in power at the state level is part of the national government or not. When state governments are not formed by the leading party of the national coalition, they tend to drive a harder bargain and reap in greater benefits for their support of the national agenda. Importantly, since the priorities in such states are always local, the policy planning caters specifically to the problems of the states and there is premium on innovation. On the other hand, states that align with the national governments are more likely to buy into the national agenda, make regional sacrifices to promote national benefits, and adopt national recommendations for policies as opposed to innovating for regional problems.

These trends not only have a short-term effect but because of lasting impact of policy decisions, they tend to have a more significant impact in the long term than in the short term. The

results of this paper, which are robust to different specifications and estimation techniques, provide a new way to explain the variation in the performance of Indian states on human development. While from an academic perspective this paper explores new layers of political economy in India, it also provides food for thought for policy makers who need to focus less on national planning and more on promoting state-level planning.

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