

Working paper



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Evidence from a  
natural disaster



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December 2016

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S-89207-PAK-1

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# Do Political Dynasties Hinder Development? Evidence from a Natural Disaster

PRELIMINARY AND NOT FOR CITATION

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December 2016

## Abstract

Political dynasties are a prevalent form of transmission of political power in many democracies. This paper examines the incentives of dynastic politicians to engage in local development in the aftermath of natural disasters. Using a large scale flooding disaster that affected Pakistan in 2010, data from national assembly elections, and spending on development programs by elected politicians in their home constituencies over a period of 2008 to 2013, this paper examines the question of whether political dynasties hinder development. The results show that development expenditures are 10.9 percent lower in flood affected areas with dynastic politicians as compared to areas without floods and dynastic politicians. This is suggestive of lower effort by dynastic politicians in a weak democratic system with entrenched political power.

**Keywords:** Political dynasties, public spending, floods, Pakistan

**JEL Classification:** D72, P48, O12, Q54

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\*I would like to thank Dwayne Benjamin, Gustavo Bobonis, Christian Dippel, Nicholas Li, Hussain Nadim, Daniel Treffer, Kate Vyborny for their comments on political dynasties and development. Abdullah Khan has provided excellent research assistance for this work. I would also like to thank the Pakistans Herald magazine, Election Commission of Pakistan, and Cabinet Division of Pakistan for making their data accessible. Financial support from the International Growth Center is gratefully acknowledged. Any errors are my own. This version is preliminary and not for citation.  
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# 1 Introduction

Political dynasties are a prevalent form of transmission of political power in many democratic political systems, such as the US (Dal Bo, Dal Bo and Snyder, 2009); Phillipines (Querebin, 2013); India (Bjolken, Chandra, 2012); Japan (Asako et al, 2012); Brazil (Braganca, Ferraz, Rios, 2015), and Pakistan. Dynasties create potential for politicians to establish an electoral advantage over non-dynastic politicians by accumulating political and financial capital which can weaken their incentives to deliver economic growth or public goods (as they can build committed vote banks). Dynasties can also enable selection of competent politicians as they allow voters to select good candidates (and their successors) based on previous performance. Therefore, the effect of political dynasties on economic performance is ambiguous.

In this paper, I examine the effect of dynastic politicians on local development, using data from national assembly elections and development spending by elected politicians in Pakistan covering the period 2008-2013. I adopt an event study approach, whereby, I use the incidence of floods in 2010, that exogenously affected some of the areas in the country but not others, to study the role of dynastic politicians in promoting local economic development in the aftermath of this disaster. Natural disasters provide a good empirical context for studying the effect of dynasties on development, as these events are exogenous in their timing and incidence, and they create an immediate need for rebuilding and development programs.

I find that dynastic politicians spend less on development and the spending is further lowered in the aftermath of floods. Overall, development expenditures are 10.9 percent lower after floods if a dynastic politician is in power as compared to non-flooded and non-dynastic constituencies. Furthermore, elected dynastic politicians belonging to land owning class are more likely than other dynastic politicians to spend on local development after floods. Dynastic politicians belonging to biradari (clans) are less likely than other dynastic politicians to spend on local development after floods. This suggests that the incentives to engage in local development in the aftermath of natural disasters depends on the local institutional structures.

This paper is related to emerging work on dynasties and development in democratic political systems. For example, recent work by Braganca, Ferraz, Rios (2015) found that dynastic politicians in Brazil spend more but have no effect on economic growth or quality of public services. Besley and Reynal-Querol (2013) found that national executives belonging to dynasties increased growth due to a positive selection effect. Given these mixed findings, my paper provides another empirical context to test the effect of dynasties on development spending. My work shows that when the democratic political system itself is weak and dynastic families have accumulated political power over time, dynastic politicians will have weak incentives to engage in local development projects.

The rest of the paper is structured as follows. In section 2, I describe the political landscape in Pakistan and the prevalence of family based politicians. In section 3, I describe the different sources of data and the methodology that I use to study my research question. Section 4 presents the results while Section 5 contains a discussion of findings and areas for future work.

## 2 Political Landscape in Pakistan

Pakistan is a parliamentary democracy with an elected national assembly and four provincial assemblies. Based on the latest delimitation which carried out in 2002 there are 272 seats in the national assembly allocated amongst the provinces and other units on the basis of population. Members are elected through direct election with simple-majority vote for a period of 5 years. The party (or coalition) with the majority forms the government and selects one member of the assembly as the Prime Minister. Each of the four provinces have a provincial government with a provincial assembly that is elected through adult franchise. There is also an upper house called the Senate which consists of 104 members who are indirectly elected by members of the national and provincial assemblies for a period of three years.

Pakistan's democratic system has been interrupted by military coups three times. The military government led by General Zia, that took over in 1977 oversaw significant changes in the constitution, turning Pakistan into a semi-presidential political system. Under this system non-party elections were held in 1985. After Zia's death, party based elections were held in 1988, 1990, 1993 and 1996. The frequent elections were due to dismissal of the legislatures by the president under a special power introduced by Zia which gave the president the power to dissolve the elected parliament. In 1999 General Musharraf imposed a coup and dismissed the parliament. The next general elections were held in 2002 and Musharraf assumed the position of the President. At the time of the next election in 2008, the leaders of the political parties who were in exile were allowed to come back and contest the elections. A new parliament was elected, Musharraf was forced to resign, and eventually the special powers of the president were removed by the parliament in 2010.

In addition to the presence of a military elite class, the political landscape in Pakistan has been dominated by politicians belonging to influential and established political families. Cheema, Javid and Naseer (2013), document the presence of political dynasties in Pakistan dating back to the first election in 1970. Many of the older families in politics primarily came from rural areas and had large land holdings. Land ownership gave these families a prominent position in administering local affairs and controlling development projects. After 1980 a number of business families from urban areas also gained prominence. These families were able to build vote banks using their money, patronage, and connections. Some of the political families have also been successful in securing power due to biradari (clan) affiliations, as many voters are likely to vote based on these affiliations. Politicians including those belonging to dynasties have frequently switched political parties until a law to counter floor crossing (party switching after election was passed in 2002). Even after these changes, it is common to observe politicians changing parties prior to elections. In fact, political parties vie for the "electable" or influential politicians who are slated to win their home constituencies.

### 3 Data and Empirical Strategy

The main source of data on political dynasties comes from a special issue of the Pakistani Herald magazine published in May 2013. Since Pakistani names do not systematically follow last name conventions so it is not always possible to link politicians on the basis on last names. Therefore the data was compiled and cross-checked by a research team using books, newspaper archives, online sources and direct interviews with politicians. In this data, politicians are identified as belonging to a dynasty based on blood and marriage ties to the founding member (the first politician to hold office). I use this database of political dynasties in conjunction with the election data from Election Commission Pakistan to code the dynastic affiliation of the candidates who won the national assembly elections in 2008. Table 1 shows the prominence of dynastic politicians in the national assembly. In 2008, 59 percent of the elected members were from a dynasty representing a total of 149 distinct families. These families held power on average 8 seats in the different assemblies over a period of 1970-2008. 41 percent of these families are landowning, 16 percent have significant business holdings and 18 percent have linkages to a biradari (clan).

In order to explore whether dynastic politicians hinder or promote development, I use data from a special federal program that allocates funds to each member of national assembly (MNA) for development programs in their constituencies. This program was introduced in 1985 and has been administered under various names by successive governments. Afzal (2009) describes the history of this program under different governments. From 2008 to 2013, the program was called the People's Work Program. Under this program, the MNAs were given access to a maximum amount of Rs. 20 million per year for development programs. The MNAs were responsible for proposing schemes for local development in the areas of health, education, roads, water supply, drainage and sanitation, electrification, or other types of local infrastructure. The schemes were approved by the Cabinet Division of federal government headed by the Prime Minister, and then funds were disbursed to the MNAs. Table 1 shows that the average yearly development expenditures initiated by the MNA in the constituency were Rs. 9.17 million which is well below the maximum size of the fund.

The incentives of the elected politicians to promote local development can vary for multiple reasons such as concentration of political power, availability of information to citizens, accountability of politicians, and barriers to entry into politics. Many of these facets of the political landscape can be endogenous, that is, they can be directly affected by the presence of influential political families. Another way we can explore the incentive of dynastic politicians to engage in local development is to use variation in exogenous events such as natural disasters that create a need for rebuilding. In particular, I use the floods that took place in the country in the monsoon season of 2010, to examine whether dynastic politicians engage in more or less development spending in the aftermath of the floods.

The floods of 2010 was one of the worst natural disasters in the history of Pakistan. The Damage and Needs Assessment report prepared for the government, estimated that around 20 million people (more than one tenth of the total population) were directly affected by the floods. Houses and crops in the

rural areas were washed away and nearby urban centers were flooded for weeks. The total cost of relief, recovery and reconstruction was estimated to be around 5 percent of the national GDP (World Bank and ADB, 2010). I use map of the flooding extents compiled by the Pakistan Space Upper Atmosphere Research Commission (SUPARCO) using satellite imagery together with a map of national assembly constituencies to identify the constituencies that were affected by floods in 2010. Figure 1 shows the constituencies that were affected by floods in 2010. A total of 141 constituencies or approximately 52 percent of the constituencies experienced flooding. The flooded constituencies were more likely to be rural – in fact the fraction of rural population is close to 75 percent in these areas as compared to 49 percent in the non-flooded constituencies.

Using the data on MNAs serving in the national assembly in the period 2008 to 2013, I use an event study approach to estimate the effect of dynasties on development spending after the floods of 2010. The empirical strategy is to use the natural variation in flooding as an exogenous event to identify the effect of dynasties on development spending. The key assumption is that the trend in spending in constituencies affected by floods and those that were not affected are the same prior to the floods. Figure 2 shows the mean expenditures in constituencies by flood status. The expenditures show substantial variation and a downward trend post 2010. However, the means of the two groups closely track each other. The mean spending is lower in constituencies that were eventually affected by floods, and it tends to rise faster after floods for at least one year before falling again. The sharp drop in expenditures in 2010 is likely due to changes in the fiscal and administrative role of various agencies involved in program administration. The overall trend is negative and mean expenditures are well below the maximum allocation per constituency. Since MNAs are elected in 2008, prior to the floods for a period of five years, we can treat the presence of a dynastic MNA as a fixed feature of the constituency and then analyze how development spending changes in response to the occurrence of floods.

Using the average yearly spending  $y_{it}$  in constituencies pre and post 2010 as the dependent variable, I estimate the following equation where  $D_i$  is an indicator of MNA belonging to dynasty and  $Floods_{it}$  takes the value of 1 post floods:

$$y_{it} = \beta_0 + \beta_1 D_i + \beta_2 Floods_{it} + \beta_3 D_i \times Floods_{it} + \gamma_t + \epsilon_{it} \quad (1)$$

In this equation,  $\beta_1$  captures the difference in development spending if the elected MNA belongs to a political dynasty. It is important to note that this difference cannot be interpreted as a causal effect, since there can be unobserved characteristics of constituencies that affected the election and also affect the roll out of development expenditures.  $\beta_2$  is the effect of floods on development spending in all the constituencies that were affected by floods, and  $\beta_3$  is the differential effect of floods in constituencies where the elected MNA belongs to a political dynasty. In this equation I also control for period fixed effects which can account for any national level omitted variables that affected spending pre and post 2010, such as devolution of government ministries that took place in 2010, strengthening of the office of Prime Minister also in 2010, which may have led to changes in the way the People’s Works Program was

administered.

## 4 Results

Table 2 shows the results of estimating equation 1 using different specifications. Column 1 shows a negative effect of dynastic MNAs on development spending. An MNA belonging to a dynasty spends on average Rs 0.9 million less than non-dynastic MNAs. Using the mean expenditures of Rs. 9.17 million, this is an effect of 9.8 percent. The effect does not change if we add time period fixed effects in column 2. In column 3, after controlling for the incidence of floods in 2010, the coefficient on dynasty variable drops to -0.835. The coefficient of floods or  $\beta_2$  is also negative and equivalent to 8.2 percent lower spending in flood affected constituencies as compared to the unaffected constituencies. This is somewhat surprising as we would expect spending to go up due to reconstruction programs. A likely reason is the crowding out of MNAs effort due to the reconstruction programs of donors and the federal government.

In column 4, I estimate equation 1 including the interaction between floods and the dynasty variable. The results show that the sign of the coefficient on the interaction term or  $\beta_3$  is negative although it is not precisely estimated. The total effect of floods in dynastic constituencies ( $\beta_1 + \beta_3$ ) is to reduce development expenditures by approximately Rs. 1 million or 10.9 percent as compared to non-flooded and non-dynastic constituencies. Most of this effect is due to presence of a dynastic MNA and a smaller portion is due to additional negative effect of dynastic MNAs in flooded constituencies. Overall, the results of Table 2 suggest that MNAs belonging to dynasties exert overall less effort in local development programs in the aftermath of floods. If the crowding out explanation is correct then it appears that politicians belonging to dynasties have worse incentive to engage in local development in the times of natural disasters as compared to politicians without any dynastic affiliation.

In column 5 and 6, I check the robustness of the results in column 4 to the inclusion of various controls. First, I control for the variable that measures the alignment of the MNA with the federal government coalition. One can argue that aligned MNAs may receive favourable treatment in the allocation and approval of funds, and thus they should have higher spending. If alignment is correlated systematically with dynastic status of the MNAs then the estimate of  $\beta_3$  can be biased upwards. However, column 5 shows controlling for alignment does not affect the estimates. Secondly, I also control for the fraction of rural population in constituencies, as flooded and dynastic constituencies were more likely to be rural. If expenditures in rural areas are lower then  $\beta_3$  can be over estimated. However, adding this control does not affect the results.

The above results provide suggestive evidence that dynastic politicians in Pakistan have worse incentives to engage in local development than non-dynastic politicians in the aftermath of floods. Are all dynastic MNAs alike? To explore this question, I use data collected by the Herald on the source of dynasty's political power. The main sources of political power are landholding, business ownership and linkage to a biradari (clan). In Table 3, I test the importance of each of these variables for development spending in the aftermath of floods. Column 1 shows a positive interaction between landholding dynas-

ties and the floods variable. Although the interaction is not precisely estimated, this result suggests that dynasties that have their political power due to landholding are actually more likely than other dynasties to engage in local development spending. The total effect is on expenditures in a constituency with a dynastic MNA that experienced floods is not different from zero. Column 2 repeats the regression using business owning dynasties. The interaction effect is again positive but very imprecise. Column 3 repeats the regression using biradari linkages. In this case the interaction effect is negative and the total effect is also negative and significantly estimated.

These results suggest that MNAs belonging to land owning families are more likely than other dynastic MNAs to spend more on local development after floods. It is not possible to isolate the exact mechanisms underlying the heterogeneity in the results with the current data. However, it is possible that in the agricultural context, land owning politicians (who are also employers of agricultural workers) are concerned about survival and health of the workforce in the face of natural disaster, and thus could have better incentives to spend on rebuilding. MNAs with biradari linkages are however less likely to spend on local development. It is possible that these politicians are more likely to provide private benefits to members of their own group (also their vote bank) instead of public goods for everyone.

## 5 Discussion

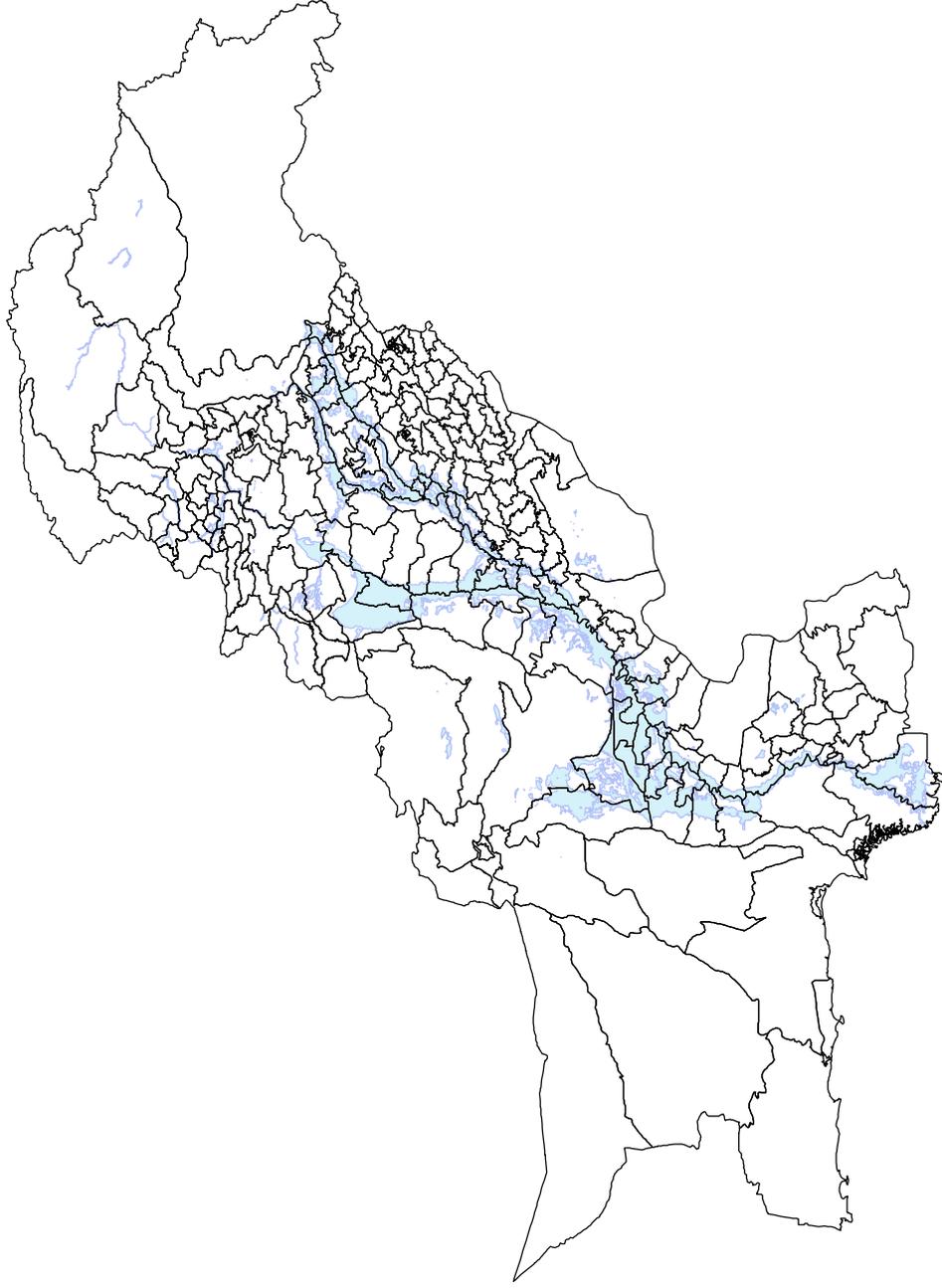
In this paper I use the geographic variation in the incidence of floods across Pakistan in 2010 to examine whether politicians elected from dynastic families have worse or better incentives to engage in local development in the aftermath of the disaster. My results show that development expenditures in constituencies that were affected by floods and had a dynastic MNA in power are lower by 10.9 percent as compared to constituencies unaffected by floods and without a dynastic MNA. Most of this effect is due to having a dynastic MNA. The additional effect of dynasties in constituencies affected by floods is also negative but it is not precisely estimated.

Overall, the results are suggestive of lower effort by dynastic politicians in response to natural disasters. The most likely reason could be crowding out of politician effort due to the involvement of other actors such as donors or the federal government. In fact, the results show that that development spending is lower in flooded constituencies without dynastic MNAs. There is an additional negative effect for flooded constituencies with dynastic MNAs. Furthermore, I find that dynastic politicians belonging to the land owning class are more likely than other dynastic MNAs to engage in local development expenditures. But those with biradari linkages are less likely to engage in local development expenditures. This heterogeneity signifies that the incentives of the dynastic politicians to respond to the needs of the citizens will have vary with local institutional structures.

A limitation of the current work is that I estimate the short term effects of dynasties on development expenditures in the aftermath of a natural disaster. I do not have data that can shed light on the question of long term effects of political inequality or accumulation of financial and political capital on the incentive to respond to the needs of the citizens. Furthermore, there can be other types of politician

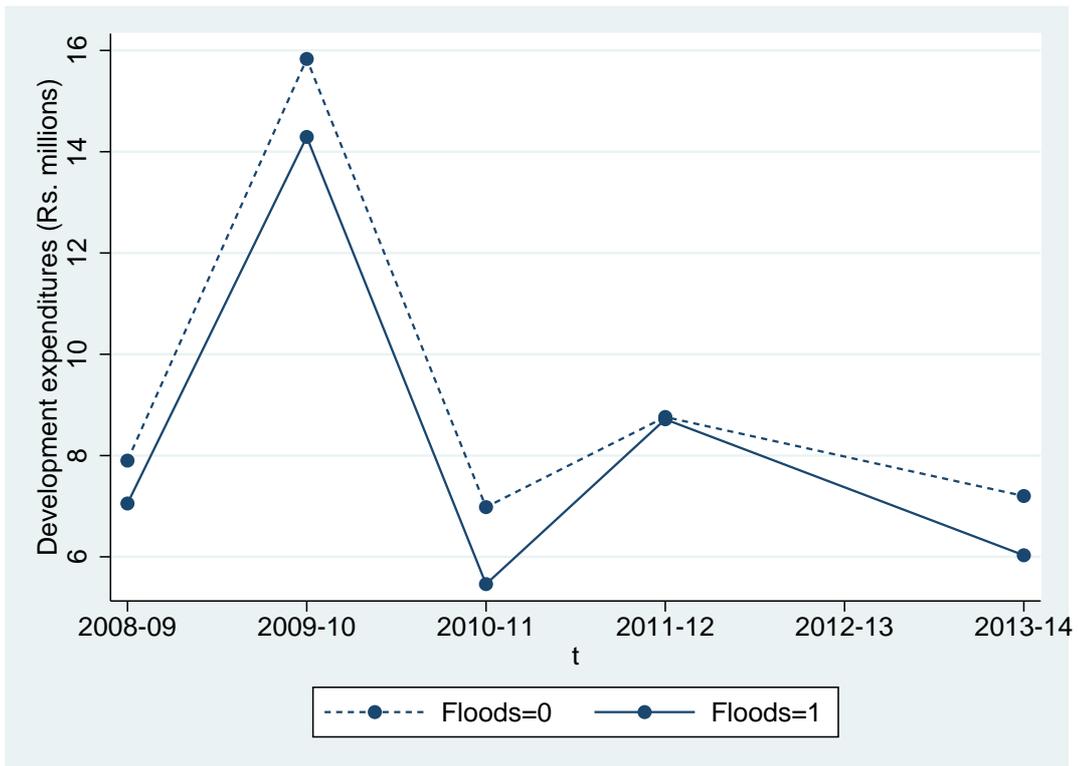
effort to promote development that are not observed in the data. Finally, data on development outcomes is also needed in addition to development spending to fully understand the impact on development when dynastic politicians are elected. These remain important avenues for future work.

Figure 1: Incidence of Floods in Pakistan



Notes: The map shows the areas affected by floods in 2010. Boundaries of national assembly constituencies are also shown.

Figure 2: Trends in Development Expenditures



Notes: The graph shows the mean yearly expenditures in constituencies by flood status. Floods took place in summer of 2010 which corresponds to the end of the fiscal year 2009-2010 and beginning of the fiscal year 2010-11.

Table 1: Summary statistics

	All sample	Dynasty=0	Dynasty=1
Dynasty	0.59 (0.49)	0.00	1.00
Land	0.24 (0.43)	0.00	0.41 (0.49)
Business	0.09 (0.29)	0.00	0.16 (0.37)
Biradari	0.11 (0.31)	0.00	0.18 (0.39)
Aligned	0.61 (0.49)	0.59 (0.49)	0.63 (0.48)
Flood in 2010	0.26 (0.44)	0.21 (0.41)	0.30 (0.46)
Fraction rural	0.63 (0.34)	0.55 (0.39)	0.68 (0.29)
Yearly expenditures (Rs. million)	9.17 (4.21)	9.68 (3.85)	8.87 (4.38)

Notes: Mean of the variable is reported with standard deviation in parentheses. Yearly expenditure is the mean of average expenditure pre and post 2010 floods. A total of 271 constituencies are in the sample.

Table 2: Effect of dynasties on development spending

<i>Panel A – Dependent variable: Yearly expenditures (Rs. millions)</i>						
	(1)	(2)	(3)	(4)	(5)	(6)
Dynasty	-0.904** (0.362)	-0.904** (0.362)	-0.835** (0.360)	-0.782** (0.394)	-0.779** (0.393)	-0.759* (0.405)
Flood in 2010			-0.752** (0.391)	-0.615 (0.445)	-0.602 (0.454)	-0.500 (0.476)
Dynasty x Flood in 2010				-0.217 (0.603)	-0.220 (0.600)	-0.244 (0.597)
Aligned					-0.069 (0.401)	0.08 (0.406)
Rural population						-0.310 (0.583)
Total effect				-0.999* (0.571)	-0.999* (0.570)	-1.00* (0.569)
Period F.E.		Y	Y	Y	Y	Y
N	542	542	542	542	542	542
R-squared	0.01	0.237	0.241	0.241	0.242	0.243

Notes: \* p<0.10, \*\* p<0.05, \*\*\* p<0.01 and standard errors clustered by constituency in parentheses.

Table 3: Effect of dynasties by source of political power

<i>Panel A – Dependent variable: Yearly expenditures (Rs. millions)</i>			
	Land	Business	Biradari
Dynasty	-0.756* (0.468)	-0.706* (0.410)	-0.974** (0.492)
Floods in 2010	-0.612 (0.445)	-0.614 (0.445)	-0.599 (0.44)
Dynasty x Floods in 2010	-0.832 (0.604)	-0.414 (0.542)	-0.090 (0.666)
Source	-0.071 (0.567)	-0.478 (0.828)	0.95* (0.54)
Dynasty x Floods x Source	1.26 (0.904)	1.19 (2.03)	-0.527 (0.735)
Total effect	-0.327 (0.949)	0.079 (2.06)	-1.59** (0.717)
N	544	544	544
R-squared	0.254	0.243	0.245

Notes: \* p<0.10, \*\* p<0.05, \*\*\* p<0.01 and standard errors clustered by constituency in parentheses. All regressions control for period fixed effects.

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