Entrenched Political Dynasties and Development under Competitive Clientelism: Evidence from Pakistan*

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Abstract

How political dynasties affect economic development in the context of poor countries is a moot question. Theoretical predictions do not yield a clear answer and empirical studies, albeit recently on the increase, remain few. In this paper, we estimate the impact of dynastic families on local development in Pakistan's largest province, Punjab. Toward this purpose, we compile an original database on political genealogies, which includes information about the personal and family characteristics of both elected representatives and the main contenders in elections for the last one hundred years covering both elections held under colonial rule and Pakistan's modern political existence. Using a close elections regression discontinuity design, we obtain several results. First, entrenched dynasts operating under conditions of competitive clientelism show worse development performance than non-dynasts. This conclusion also holds when the effect of entrenched personal power, which measures the incumbency advantage of the individual election winners, is controlled for. Yet, it does not hold any more when the dynastic politician has won an election comfortably rather than by a close margin. Second, the behavior of traditional elites, which are overwhelmingly represented among dynasts, does not erase the effect of dynasticism per se. Where it occurs, it is the conjunction of entrenched political power with a traditional family setup characterized by strongly hierarchical relationships that accounts for poor development . An interpretative story is offered that is inspired by the political theory of economic backwardness of Acemoglu and Robinson as well as by a rich socio-anthropological literature.

1. Introduction

Elites that have come to form political dynasties over time have received growing attention among social scientists, including economists. Two possibly interrelated questions are addressed in this literature: how dynastic families emerge and how they affect development performances? The emergence of dynastic power is generally explained by the intergenerational transmissibility of political capital which confers an electoral advantage on the offspring of politicians by lowering the cost of entry into the political profession. Components of political capital include name recognition, close acquaintance with high-level politicians, bureaucrats, and party leaders, and a strong capacity to buy votes thanks to the financial and organizational support of the family network. Heritability of human capital in the form of skills useful for political careers and for negotiating with public authorities is another channel through which descendants may secure a relatively easy access to power. Whether one explanation is more valid than the other is an empirical question, and evidence tends to show that political capital plays an important role in the intra-family transmission of political power (Cheema et al., 2009; Querubin, 2016; Geys and Smith, 2017; Dal Bo et al., 2019; George, 2019).

The second question is the one that retains our attention in this paper. In the specific context of competitive clientelism as it prevails in the province of Punjab (Pakistan), we measure the impact of dynastic families on a comprehensive indicator of long-term growth, i.e. night time luminosity. Toward that purpose, we harness an extensive set of data that include electoral outcomes, the family background of politicians, and economic and social outcomes. Although we limit our attention to the three recent election rounds of 2002, 2008 and 2013 (at both the national Assembly and Provincial Assembly levels), our knowledge about election results goes as far back as 1921, thus allowing us to trace the existence of political dynasties with remarkable accuracy over a period that covers pre- and post-independent Pakistan. We have also painstakingly collected supplementary data about the family and individual characteristics of all election winners and runners-up, so that we are able to establish interesting relationships between political families and their attributes. In sum, we propose an original contribution to the interrelated literatures dealing with the persistence of elites and institutions, the role of political dynasties, and clientelistic politics.

A priori, it is unclear whether dynastic power is conducive to development. A positive effect is expected if hereditary leadership improves policy incentives because, like in a

relational contract, the reputations of the leaders help surmount moral hazard problems (Besley, 2005; Besley and Reynal-Querol, 2017). Dynastic transmission of power thus induces politicians to exert more effort and increase their performance to the extent that they care their offspring will follow them in office (they enjoy a sort of 'warm glow' effect). George (2019), however, ascribes this advantage only to the founder of a dynasty, not to the descendants. Since the latter inherit voters loyal to their predecessor, their incentive to perform well in office is relatively weak. Thanks to their free access to the political capital accumulated by their ascendants, they can persist in power despite their under-achievements. Under-achievements may also be caused by problems of negative selection relative to other politicians.

Finally, Asako et al. (2015) predict that dynastic leaders, who enjoy a higher probability of winning and a higher vote share, tend to harm the economic performance of their district despite the large amount of distributive benefits brought to their own constituents. The problem stems from the fact that their advantages are put at the service of rent-seeking policies that benefit only a fraction of the voters belonging to their support group. This is at the expense of policies aimed at encouraging growth through investment in the socio-economic infrastructure and the expansion of job opportunities in an entire district. Underlying this argument is a political system based on a particular type of electoral competition, one that takes place between big men whose power is based on clientelistic networks, which are informal. In the words of Acemoglu and Robinson (2006, 2008a, 2008b), a combination of de jure and de facto political powers is involved, and "captured democracy" is a likely outcome.

Under political clientelism, competition and the fight for political power mainly take place across political families, not across ideology-based parties, which remain weakly organized (Kaufmann et al., 2003; Ferraz et al., 2020). In contrast to public goods that every resident receives in the same quantity (due to their non-excludability), the incumbent can typically withhold the distribution of private benefits to residents who did not vote for him/her in the previous election.[1] In this setup, a key determinant of vote-generating effectiveness of private benefits is the incumbency advantage, that is, the voters' beliefs that the incumbent will be re-elected. This is precisely where dynastic families make a difference since voters may have formed the expectation that politicians of a particular family have better chances of winning

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[1] A central assumption is therefore that secret ballots can be circumvented and political leaders or brokers are able to monitor how each citizen votes (Sarkar, 2014; Bardhan et al., 2020). Evidence for Pakistan is provided by Martin (2016: 141).

thanks to their strong and transmissible political capital. What then takes place is 'contagious voting' (Sarkar, 2014).

Political clientelism, which aims at benefitting narrow subsets of intended beneficiary groups, suffers from a comparison with what Bardhan and Mookherjee (2012) have called program politics. By creating a bias towards private transfer programs with short-term payoffs at the expense of public goods or private benefits of a long-run nature such as education or health services, strategic transfers made by political patrons often come at the expense of long-term development (Bardhan and Mookherjee, 2012). The problem is especially serious when public resources mobilized at the central level are made available to local dynasts who use them for patronage purposes.

Focusing on a binary comparison between clientelistic and program politics, where there exists only one form of clientelism and program politics is abstracted from incentive problems inherent in party organizations, may not allow to consider the actual working of politics in many poor countries. Thus, when patronage networks are based on horizontal family ties rather than on hierarchical relationships of the patron-client type, involvement of their heads in politics may not discourage the supply of public goods. For example, Fafchamps (2016) and Cruz et al. (2017) argue that extended family networks may be more effective at dispensing patronage and providing services to supporters than party networks. The reason is that the former are built on bonds of kinship, which motivate political brokers in the network to exert more effort on behalf of their candidates. In contrast, ordinary party workers may be tempted to defect to other candidates, embezzle campaign funds, and fail to sincerely deliver on the candidate's patronage promises. Moreover, when politicians rather than communities are responsible for the provision of public goods, social fractionalization may decrease the risk of elite capture and stimulate the production of public goods and electoral competition. The underlying mechanism has been aptly precised by Lizzeri and Persico (2004): when a society or community is divided into a higher number of family networks, politicians have greater incentives to provide public goods or follow strategies that yield diffuse benefits. The reason is that the transaction and agency costs of engaging in the clientelistic exchange of private transfers are then relatively high compared to a situation where a strong leader at the head of a large group has enough bargaining power to demand private, targeted and excludable transfers in exchange for electoral support (Cruz et al., 2020: 3).

The choice of Pakistan as a case study is particularly appropriate for several reasons that become clearer in the light of the above considerations. First, the country's politics has been

thoroughly penetrated at every level by long-lasting political families which form the backbone of party machines (Cheema et al., 2009: 2; Yadav, 2020: 1046-7). Second, competitive clientelism seems to prevail in many locations and political parties are dominated by big families. Third, dating back to General Zia, special development grants have been awarded to members of provincial and national assemblies to enable them to satisfy their supporters at very localized levels. Control over these funds is discretionary and escapes any audit (Cheema et al., 2005: 13, 27), a feature that has helped shape a particular formal institutional context for political clientelism in the country. Fourth, two types of clientelism seem to prevail that may be coexisting and competing for votes. They are anchored in two different types of extended families, one feudalistic and the other relatively horizontal, that provide different sorts of service to their client voters: livelihood-protecting services for the former and livelihood-enhancing goods and services for the latter. They form the informal scaffolding of Pakistan's political system.

The measure the impact of dynastic power, we use the close elections regression discontinuity method, which has become best practice in similar works of political economy (see, e.g., Querubin, 2016; Dal Bo et al., 2009; George, 2019; Sarkar, 2019; Prakash et al., 2019). We find that entrenched dynasts, defined as legislators who won more than 10 tenures over successive election rounds, show significantly worse performances than non-dynastic legislators. This remains true even after we control for the effect of entrenched personal power, which measures the incumbency advantage of the individual election winners, is controlled for. The result nevertheless vanishes when the dynastic politician has won an election comfortably rather than by a close margin. On the other hand, even though an overwhelming majority of entrenched dynasts come from traditional (historic landlord or shrine) families, the effect of dynastic power persists when family characteristics are controlled for. Where it occurs, it is the conjunction of entrenched political power with a traditional family setup characterized by strongly hierarchical relationships that accounts for bad development performances.

Putting these findings together, we propose an interpretative story that sets the political theory of economic backwardness of Acemoglu and Robinson (2006b) in the context of two competing types of clientelism. Once entrenched and mildly sheltered from the pressure of political competition, instead of relaxing their efforts, dynasts redirect them toward the objective of blocking development so as to undermine challenges to their power. Because most of them belong to historic and/or religious families that are based on hierachical patron-client

relationships, the implication is that they use this vertical organization even more intensely than before becoming entrenched.

The remainder of the paper is as follows. In Section 2, we undertake a brief overview of the relevant empirical literature and we discuss the motivations that can possibly drive political dynasts to neglect or even block development. Section 3 characterizes the political system of Pakistan and the way it has changed over time, placing emphasis on the role of political families. In Section 4, we offer details about the data that we have been able to collect, distinguishing between election results, the profiles of politicians, and various outcomes of the actions of elected representatives. Descriptive statistics are supplied thereafter. Section 5 is then devoted to the exposition of the methodology followed to measure the impact of political dynasties on these outcomes. Section 6 proceeds by presenting the results of our basic regressions that estimate the effects of entrenched dynasticism on development outcomes. A general discussion of possible interpretations of these results unfolds in Section 7. Following an attempt to combine theoretical insights with major findings from micro-level socio-anthropological studies, we present a series of complementary pieces of empirical evidence aimed at elucidating the role of family background in relation to the formation of dynastic power. Section 8 concludes.

2. The adverse effects of dynastic power

2.1 A short review of the empirical literature

Given recent interest in the field, it is not surprising that there are only a few rigorous studies about the impact of political dynasties in developing countries where competitive elections are held down to the village level.[2] Let us consider them in turn.[3] Based on a regression discontinuity design, George (2019) shows that descendants of dynasts in India worsen poverty and public good provision in villages they represent. Their under-performance is attributable to

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[2] We thus ignore the studies of African village politics, such as the one of Acemoglu et al. (2014) on Sierra Leone. In that particular study, development outcomes are found to be significantly worse today in communities where chiefs face less political competition owing to the presence of fewer ruling families (those originally recognized by British colonial authorities).

[3] Studies based on correlations converge in concluding that politicians belonging to dynastic families are associated with worse outcomes than other politicians, with the range of outcomes varying from poverty relief, development spending, and delivery of public services (electrification, literacy, running water) to crime rates and gender asymmetry (see, e.g., Yadav, 2020: 1050, for references).

both moral hazard (which explains about 40 percent of the performance gap between them and non-dynasts) and to negative selection. As for founders of dynastic families, they have positive effects on economic development, which is partly driven by the bequest motive: politicians with a son are twice as likely to establish a dynasty and exert more effort while in office than other politicians. The overall effect of dynasties, aggregating founder and descendant effects, is clearly negative, implying that once the second and subsequent generations of politicians enter into politics, their performance deteriorates so badly that people exposed to them become poorer and have fewer public goods.

Turning to neighboring Pakistan, a study by Ali (2016) explores whether dynastic politicians hinder or promote development. To infer causality, the author uses variation in an exogenous event, namely the massive floods that followed the monsoon season of 2010 and were one of the worst natural disasters in the country. She then looks at how dynasts and non-dynasts spent on development programs in their home constituencies over the years 2008-2013 (with 2008 as an election year). The results show that local development expenditures decreased in flooded constituencies, yet the decrease was more pronounced in areas ruled by dynastic politicians, thereby pointing to their lower effort in response to natural disasters.

In their study of Brazil, Ferraz et al. (2020) exploit the following fact: in 1964 the country's political regime transitioned to a military dictatorship (for 21 years) that confronted the power of the traditional elites in order to establish a strong central state. Toward that purpose, the military brought a new class of more reliable local politicians to compete in local elections. The authors show that a reversal of fortune occurred as a result of this tactic: while prior to the dictatorship, municipalities (mostly rural, less populated and more reliant on plantation crops, such as sugar and cotton) that were more dominated by traditional elites were also less economically developed, some sixty years later (in 2000) they became relatively richer than the other municipalities where power was less concentrated and less entrenched. Moreover, the former municipalities became more competitive over time, plausibly explaining why they also became more prosperous. Finally, in the Philippines, there is greater public good provision and political competition in villages with more fragmented social networks, thus confirming theoretical predictions in the presence of horizontal networks of clients (Cruz et al., 2020; see also Wilfahrt, 2018).

2.2 Mechanisms

Empirical evidence thus suggests that dynastic power has negative effects on development, at least when it is embedded in political families that rely on hierarchical organizations of the patron-client type. The question arises as to what can motivate dynastic families or persisting traditional elites to block or hamper development. Three main explanations can be drawn from the existing literature. According to the first explanation, dynasts behave as political patrons concerned with satisfying the narrow interests of their clientelistic network or voting bloc. The problem, here, is precisely that nothing differentiates dynasts from the heads of patronage networks. The second explanation does not suffer from this shortcoming since it explicitly refers to a specific feature of dynasts: because they feel relatively well assured of remaining in power, (descendant) dynasts tend to relax their efforts to cater to voter demands (George, 2019). Since these efforts are costly and, given the effort, their probability of winning is perceived to be quite high, they are ready to trade-off some decrease in this probability against additional leisure. Consequently, dynasts are expected to perform less well than non-dynasts, an effect possibly reinforced by the adverse selection problem.

The third explanation is more radical in the sense that it is based on the idea that dynasts may deliberately thwart or slow down development. This possibility is highlighted in the political theory of economic backwardness advanced by Acemoglu and Robinson (2006b). The basic intuition is that political elites face a trade-off between economic gains and power. All else being equal, they prefer technological progress and prosperity-inducing reforms that might increase their economic rents in the future. Yet all else is not equal because such changes can potentially erode their political advantages relative to other groups. They will thus decide to "block beneficial economic and institutional change when they are afraid that these changes will destabilize the existing system and make it more likely that they will lose political power and future rents" (pp. 115-6).

The theory predicts a non-monotonic impact of political competition on resistance to development: while political elites that are either subject to intense competition or do not face any competition due to their complete domination of the electoral landscape adopt new technologies, elites occupying an intermediate position between these two extremes will adopt the opposite attitude. This is underpinned by a straightforward rationale: with intense political competition, elites prefer to innovate lest they should risk being replaced, whereas strongly entrenched elites do not fear losing political power so that for them there is no trade-off between economic gains and power. By contrast, elites that are 'somewhat entrenched' but are still afraid

of being replaced are tempted to block innovation to prevent such replacement from happening (p. 116). The crucial element behind the mechanism is therefore that what matters are not the "economic rents that will be destroyed by the introduction of new technologies, but the erosion in the political power of the elites" (p. 117).

Two issues arise. The first one concerns the second explanation specifically. If we can understand that strongly entrenched dynasts, owing to their monopoly position, are able to bring their clients into submission and therefore dispense with the need to offer them advantages in return for their votes, such is not the case for the "somewhat entrenched" dynasts. Being exposed to some degree of political competition, the latter must provide some services to voters. And, in the logic of Acemoglu and Robinson's theory, these services must be of a sort that inhibits, or at least does not promote development. One promising way of overcoming this difficulty consists of drawing a distinction between livelihood-enhancing goods and services, which stimulate development and are supplied by political elites driven by electoral competition, on the one hand, and livelihood-protecting services, which do not encourage development and tend to be supplied by better sheltered elites, on the other hand. Later in the paper, we will further elaborate this distinction and offer empirical evidence correlating dynastic power with the type of patronage offered.

The second issue relates to the formation process of dynastic power. A family does not become dynastic at once and its entrenchment in politics may involve several stages during which its power is being consolidated. If a dynastic family adversely affects local development, we may wonder when it starts having this negative impact. George (2019) contrasts founders and descendants and attributes negative effects only to the latter. Founders have different motivations and, as argued by Besley and Reynal-Querol (2017), could take actions favourable to development. By contrast, the argument in Acemoglu and Robinson (2006b) mainly revolves around persistent or well-established political elites. Nevertheless, it is possible to interpret their results in the following manner. When in a formative stage, a political family is subject to strong competition and therefore acts in development-promoting ways. When it has achieved stronger political roots, but is still subject to competition, it turns to actions that are detrimental to development. And, finally, if it succeeds in achieving a monopoly power position, the trade-off between economic rents and power disappears and it reverts back to development-promoting actions. We will later see how we can attempt to test this result on the basis of our Pakistani data.

3. Political Clientelism in Pakistan: A Historical Perspective

Three important features of the Pakistani political system, as well as their historical antecedents and evolution, need to be brought to light because they form critical elements of the context in which our empirical analysis will subsequently unfold.

3.1   Role of land elites

Big landowning families have historically played a crucial role in the country's politics. Together with the military and the civil bureaucracy, they formed the ruling triad when Pakistan was born as a Muslim state (in 1947) under the impulse of the All India Muslim League.[4] The landowning class was not homogeneous, however. As stressed by Jan (2019), it has schematically consisted of two main groups: the 'aristocratic' large landowning families, on the one hand, and the landowners from the 'peasant castes' comprised of middle-range landowners, traders and agro-processors, on the other.

The first group, which enjoyed high traditional status and special protection under the British, is the Muslim ashraf (elite) made of the Syeds (who claim descent from the Prophet's family and lead various Sufi shrines), the Rajputs (old warrior caste) and the Mughals (who claim descent from the erstwhile Mughal nobility). Forming a large part of the class of local intermediaries upon whom the colonial state rested for indirect rule, they were rewarded for their support through landed gentry grants, official appointments, titles, and awards, especially in Punjab where grants of colony lands were massively awarded in the hope of creating a loyal native class of supporters (Cheema et al., 2005: 4; Ali 1989). The relationships of this traditional elite with lower caste dependents was framed in the mode of strongly hierarchical patron-client ties. Its influence has been particularly enduring in areas where land markets are rather inactive (Akhtar, 2008; Cheema et al., 2009; Javid, 2011). Its most dynamic members, though, proved able to invest in new lines of economic activities and in the education of their children who, in turn, became professionals (engineers, doctors, lawyers, teachers). It is worth noting is that even in these cases and even when they resided in cities or towns, they retained a keen interest in their native constituency and its (factional) politics (see also Ali, 1987, 2004).

As for the second group, lower in the caste hierarchy, it included traditionally self-cultivating family farmers who belonged to the 'agricultural tribes', or the biraderis (kinship

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[4] While, initially, the main support of the League came from cities, Jinnah quickly understood that his party will not reach a pre-eminent political position if it did not extend its reach to big families in the countryside.

groups). Numerically more important than the 'aristocratic' families, they gained importance once some of them received land grants from the colonial government and used this opportunity to develop their property. Interestingly, with the peasant castes they have emerged from, they share kinship ties organized around an ideology of 'corporate solidarity', meaning that they are based on mutual obligations and reciprocity along horizontal lines. Not surprisingly, they have a strong feeling of identity and see themselves as distinct from the large landlords, whom they refer to as 'bade zamindars' (big landowners) and 'jagirdars' (feudal/estate owners). Their 'middle-class' self-identity was crucial "as a means through which they seek to access the state, using both clientelism and populist mobilization to demand resources and organizing under their leadership small and poor peasants with whom they share ties of kinship" (Jan, 2019: 187).

The identity and self-assurance of the rural middle class was reinforced when General Ayub Khan (1958-1969) decided to patronize middle-ranking and gentry people so as to counterbalance the power of 'aristocratic' landowners. In the Punjab province, in particular, its entrepreneurs could thus benefit immensely from the green revolution package of irrigation, fertilizers, and high-yielding seed varieties (Jan, 2019: 188; Martin, 2016: 122-3). In sum, members of this non-aristocratic landed class gradually emerged as a genuine political force in the countryside, able to bargain politically and to connect with local bureaucrats and officials with a view to obtaining advantages for their factions and biraderis [clans]. Their rise has been described in detail in several ethnographic and field accounts (see, in particular, Zaidi, 2015, 2019; Martin, 2018; Mohmand, 2019).

3.2 Weak party structures and personalization of politics: the dominant role of the military

Party structures, which are weak in Pakistan, are characterized by a high degree of personalization. In particular, there are no internal elections for the leader or the key posts, and factional struggles are rife inside the party (Hasnain, 2008: 146). In the words of Cheema, Javid and Naseer (2013), the organizational form of politics that has emerged "is a hybrid with political party apparatuses being built on an edifice of dynastic families and their networks rather than party machines organized around ideology, ethnicity, class and/or programmatic platform" (p. 2). Political parties have thus chosen to forge alliances with dynastic politicians rather than build effective party machineries around dedicated party cadres. (It is revealing in this context that voters admit that their voting choice has almost never been influenced by visits of party cadres).[5] Hence a vicious cycle that feeds both the success of dynasties and the weak

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[5] Data come from the FAFEN (Free And Fair Election Network) survey (2011).

organisational structure of the parties. Not surprisingly, in this context, the frequent switching of political parties by members of these families and the sprouting of various like-minded factions have become the norm in politics (p. 3; see also Yadav, 2020: 1055; Lyon, 2019: 109). Not only do dynastic leaders often indulge in party switching, easily shifting their loyalty if they feel a move better serves their interest, but their families may also be engaged simultaneously in different parties. These features attest to their lack of ideological commitment and their opportunistic determination to see that their patronage tactics are not foiled by changing political circumstances. Their constant concern is to act in such ways that they can enhance their personal reputations and carry them across party lines if needed (Hasnain, 2008: 145).

It is General Zia ul-Haq (1977-1988), moved by his ambition to suppress mass-appealing parties based on ideology, who laid the groundwork for a persisting change in the way politics is run in Pakistan (Hasnain, 2008: 145; Ziring, 1988: 804; Martin, 2016: 74). Under his rule, indeed, the allocation of party tickets and ministries became more and more patently "an outcome of individual bargaining between powerful local brokers and party leaders" (Cheema et al., 2005: 13). The system was given a strong boost in the mid-1980s when Zia gave elected politicians direct control over the allocation of special development funds. This practice, which allowed federal and provincial politicians to obtain unaudited control over local-level development allocations, continued unabated under all civilian governments after him and continues to grease the wheels of patronage politics until today. A major step toward the "localization and personalization of politics at the local level" (Wilder, 1999) has been the bridling of direct bureaucratic representation in local governments so as to create greater autonomy for the elected tier at the local level (Cheema et al., 2005: 28).[6] In this framework, kinship ties assumed great political force as a means to fragment popular political opposition (Martin, 2016: 93).

The approach stressing the localization of politics was again at the heart of the decentralization reform of Pervez Musharraf (1999-2008). Local-level provincial administration became accountable to elected officials at the local level and "the vast majority of public services that were previously under the local provincial administration, have been transferred to the local governments, substantially increasing their scope and responsibilities" (Cheema et al., 2005: 16-17). The idea of Musharraf was apparently "to create a political

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[6] To this effect, the provincial bureaucracy at such level was made accountable to the elected heads of district and Tehsil Municipal Administration.

constituency that could be easily manipulated through the granting and withholding of government funds and patronage" (Martin, 2016: 124).[7]

The important lesson is that, because local politicians could now deliver political support even in the absence of bureaucratic patronage, the power of the new elites was no longer exclusively dependent on the support of the bureaucracy. This effect has been reinforced by blatant and growing interference of MPs (Members of Parliament) in administrative issues, including matters of postings, transfers, and promotions of key officials, such as provincial police heads.[8] It is apparently this weakened capacity of district bureaucrats to deliver political support for the military together with the increased organizational autonomy of local elites that explains why the military chose to abandon the bureaucratic control model and assign wide-ranging functional responsibilities and resources to locally elected politicians (Cheema et al., 2005: 29). In urban areas, it is the support of business families which has mattered most, but they maintained narrow links with rural politics. Zia chose to promote the interests of a rising group of Punjabi businessmen at the expense of the Muhajir (immigrants from India at the time of the partition) businessmen of Karachi.[9] These new business families, known as Navay Raje ('new lords'), had long histories and roots in the local communities in which they lived. Many of them were able and willing to use their status as local employers and landowners to generate significant political support among the rural people who were dependent on the wages and protection they provided. In return for their support to the military, they received substantial advantages, including the ability to establish and maintain mutually beneficial business partnerships with members of the army (Armytage, 2019: 167-9).

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[7] For Cheema et al. (2005), Musharraf's local government reforms represented a continuity of the country's central historical tendency, which consisted for central power (the British Imperial state first, the Pakistani military, later) to seek legitimacy by creating a localized patronage structure that produces a class of 'collaborative politicians' acting as a conduit between local-level constituencies and the non-representative center. As a result, all attempts at centralization of political power considerably weakened the organizational structure of political parties and distorted electoral competition at the provincial and central levels, not least by selectively disqualifying political party representatives and at times outrightly banning all or certain parties (p. 25).

[8] See, for instance, the scandal denounced in Dawn, May 24, 2021 ("Lodhran DPO transferred on Tareen camp demand"): a competent District Police Officer with the required seniority was removed to make way for a young officer imposed by a clan acting behind the coalition of parties in power.

[9] Zia moved the country's capital city from Karachi (in Sindh province) to Islamabad (in his native Punjab province).

3.3 Growing political competition at local level: the role of kin networks and factions

There is growing micro-evidence that considerable spatial variation exists with regard to the political influence of historically embedded landed elites. The power of the landed gentry is no longer automatic or guaranteed and their political power is increasingly contested in some regions, forcing them to bargain with a new class of agricultural entrepreneurs, agro-processors, brokers, and intermediaries. In other words, in many local areas, several candidates backed by their voting blocs are contending for power. In many cases, moreover, political competition appears to be quite acute. As pointed out by Cheema et al. (2013), "The highly competitive nature of Punjab's elections can be seen from the fact that a 5 percentage-point swing against incumbent parties in the coming election, all else equal, can topple as many as 30% of the national assembly seats in the province" (p. 1)

Voting blocs may be organized vertically, especially when rural voters are economically dependent on the leader and relate with him individually in the context of a patron-client relationship. The client is then expected to support the patron politically. This is the dominant pattern in villages characterised by high land inequality. Alternatively, voting blocs may be organized horizontally, usually on the basis of kinship groups or through a 'broker clientelism'. These horizontal blocs are a frequent feature of more egalitarian villages, and the most cohesive of them are made of kin-related economically independent landholders who possibly want to assert their common interests against bigger landlords (Martin, 2016: 118; Mohmand, 2019: Chap. 6). In these villages, moreover, members of the lower castes are no longer the captured vote bank of the landed aristocracy and they may shift alliances depending on the circumstances (Jan, 2019: 190), thus giving rise to a "democratization of patronage politics" (p. 194 –citing Wilder, 1999: 199).

Contrary to a simplified view, kinship groups (biraderis) do not necessarily form the basis of a voting bloc. Martin (2016: 117) even argues that in Punjab the extended biraderi is rarely the main unit of political activity. A given biraderi may actually be divided into different factions (dharras) because of personality rivalries or the perceived need to diversify risks. In the former instance, factions can ally themselves with outsiders against their own clan members and even their close kin (owing to competition over land or over local dominance), sometimes leading to violent and enduring feuds. Bitter fights involve religious as well as secular elites and, in the latter instance, the biraderi's potential voting influence is put into several baskets

(vote blocs) so as to avoid being stuck with a losing candidate.[10] Factions are then the outcome of a coordinated decision and their insurance function is especially important in contexts where the landed elite, eager to retain its erstwhile power and prerogatives, compete vigorously for vote bloc members (Mohmand, 2019: 250; Lyon, 2019: 109; Yadav, 2020: 1053). In many cases, the core of a faction seems to be based on cooperation between male siblings and preferential cousin marriages, as it yields prestige to keep daughters within the biraderi (Martin, 2016: 96, 117).

Competition between voting blocs at local level does not appear to erode political dynasticism. As early as after the elections of 1985 and 1988, there was thus "a substantial infusion of new entrants into the dynastic pool", yet at the same time, "a large share of these individual non-dynastic entrants into politics thrived and formed successful dynastic families in their own right. This suggests that the emergence of a new pool of politicians may not imply a weakening of the dynastic system of politics and, instead, may only result in the replacement of one set of dynastic families by another" (Cheema et al., 2013: 4). Especially worth noting is that, since the elections of 1985, business-owning, trading and professional elites are increasingly successful in forming dynastic families, thus explaining why a significant presence of dynasticism also exists in the less landed and more equal central-eastern districts of the Punjab province.[11]

Before turning to the next section, it is useful to provide a summary picture of the succession of rulers and regimes since the Pakistani independence, together with the dates of all the intervening elections. While taking cognizance of Figure 1, we should keep in mind that, for most of Pakistan's short history (the exception is Z.A. Bhutto's rule), the country was trapped in a sort of "self-perpetuating cycle whereby civilian governments characterised by the

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[10] Internal fights are illustrated by the old confrontation between the Gilani and Quraishi pîr families in Multan district.

[11] Given the competitive nature of most electoral contests, people's belief that the political system is extremely uncompetitive may seem odd. The clue behind this paradox is precisely that the political class is heavily dominated by dynasties, held together by ties of blood and marriage. Hence, "while Punjab's politics appear competitive as members of dynastic factions aggressively compete against each other using different party platforms, they are simultaneously uncompetitive because the dynasties, and the pursuit of their interests, trump other concerns in political party, public policy and development-related matters" (Cheema et al., 2013: 1).

factional politics of patronage were ousted by military governments who further entrenched factional politics by stunting political development" (Martin, 2016: 82).

4. Data

In this section, we describe the type and sources of data used in our empirical analysis. Broadly speaking, we construct two highly fine-grained databases to capture the core dimensions of political and economic development for the National Assembly and Provincial Assembly constituencies of Punjab.

4.1 Political data

We compiled data on elections and political families in Punjab that dates back around a century and covers the period, 1921-2013. This is the most comprehensive data collection effort carried out for Punjab to date. In the first stage, we compiled the list of candidates and their election results. In the second stage we collated primary information on candidates and their relatives.

ELECTORAL DATA. In total, we have collected data for no less than 19 elections out of which 13 were held in the post-independence period. We discuss below the list of pre- and post-independence election rounds and the accompanying data sources.

First, we compiled data for the six election rounds held during the pre-partition period, which are as follows: 1921, 1923, 1925, 1929, 1937 and 1945 elections. For this we relied on British archives detailing election results in the pre-partition period.[12] Under British rule limited enfranchisement was introduced as part of the Government of India Act of 1919. The first Punjab Legislative Council was constituted in 1921 with 70 percent of its 93 members elected and the rest appointed or nominated. In the West Punjab nominated members were typically tribal chiefs, members of landed gentry, and other elite groups patronized by the colonial

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[12] India Office. 1921. Return Showing the Results of Elections in India. London, H.M. Stationery Office, Cmd. 1261; India Office.1924. Return Showing the Results of Elections in India, 1923. London, H.M. Stationery Office, Cmd. 2154 ; India Office. 1927. Return Showing the Results of Elections in India 1925 and 1926. London, H.M. Stationery Office, Cmd. 2923 ; India Office. 1931. Return Showing the Results of Elections in India 1930 and 1931. London, H.M. Stationery Office, Cmd. 3922 ; India Office. 1937. Return Showing the Results of Elections in India 1937. London, H.M. Stationery Office, Cmd. 5589 ; Government of India. 1948. Return Showing the Results of Elections to the Central Legislative Assembly and the Provincial Legislatures in 1945-46. Delhi: Manager, Government of India Press.

authority. For the first three Legislative Councils (1921, 1923, and 1925), we collected information for both elected and non-elected candidates. Data for the remaining four elections in the pre-partition era mainly involve elected candidates. We used the historic delimitation files to identify respective colonial-era districts in West Punjab in which these candidates ran for elections.

We then extended this data to include electoral records for three early post-partition election rounds held in 1951, 1962, and 1965. Information for these was obtained from the respective Gazetteers of the Government of Pakistan available at the Library of National Assembly of Pakistan. The corresponding provincial assembly results for these election rounds were obtained from the web pages of the Provincial Assembly of Punjab (https://pap.gov.pk/en/members/past-members). Finally, we compiled detailed election results for ten contemporary rounds of national and provincial assembly (NA and PA) elections held since 1970. These include the following general elections: 1970, 1977, 1985, 1988, 1990, 1993, 1997, 2002, 2008, and 2013. Data for these election rounds is consistently available from the Election Commission of Pakistan and published reports of Free and Fair Election Network (FAFEN). The FAFEN reports contain all essential electoral data, including total votes registered in a constituency, votes polled for each candidate, the margin of victory, etc. We extended this data backward to include electoral records for three early post-partition election rounds held in 1951, 1962, and 1965. Information for these was obtained from the respective Gazetteers of the Government of Pakistan available at the Library of National Assembly of Pakistan. The corresponding provincial assembly results were obtained from the web pages of the Provincial Assembly of the Punjab (https://pap.gov.pk/en/members/past-members).

DATA ON POLITICAL FAMILIES. We collected detailed information on the profiles of the top three candidates in each constituency and election year. A four-step procedure was followed for this purpose. First, we compiled publicly available information on elected members from the online directory of the Punjab Assembly's website. Apart from information on age, education, and professional associations (e.g. membership of legislative committees), this online repository contains detailed information on relatives who have been elected to past or present legislatures. This information is consistently provided for elected members since 2002. Second, we expanded this information over time and across candidates using a rich literature on Punjab's electoral politics in Urdu (Ismail 1986; Anjum, 1990, 1995; Jaffrey, 2007). We supplemented this source with newspaper profiles, election supplements of local newspapers, Facebook pages of election candidates, and their Wikipedia entries. Thus, we developed an extensive database

reporting the family ties of the top three candidates for each constituency, considering family relations of both direct (based on blood ties) and indirect (based on marriage alliances) types.[13]

Third, to fill in the remaining gaps, we carried out a specialized telephone survey aimed at constructing a complete personal profile for each election candidate as well as a list of socio-economic characteristics for each constituency. Carried out by the chief election reporter of a major Urdu newspaper (*Dunya*), the survey allowed us to build a detailed dataset containing information about the relatives (direct or indirect) of each candidate, when they appeared to have participated in elections, whether they won a seat or not. For each district, the surveyor was assisted by correspondents of local newspapers who possess detailed knowledge of the leading political families. Information could thus be obtained on the age, education, profession, and pre-partition or colonial-era position of the key members of all political families. We also know whether a candidate belongs to a major landed family and to historical nobility. To determine whether a candidate's family enjoyed historical influence in the colonial period, we relied on a range of sources published in Urdu and, in particular, on the colonial-era District Gazetteers. As a matter of fact, these sources reveal the identity of key families and tribes, namely those that received colonial land grants, benefited from official appointments (e.g. tax collectors/zaildars, assistant commissioners, *darbaris*, etc.), or participated in legislative elections under British rule.

Finally, we conducted a separate verification exercise through a quick survey made by a senior journalist who covers the election beat of a major English daily (*Dawn*) in Islamabad. Assisted by a network of local reporters, we used this verification survey to weed out incorrect entries, add new relations, and fill gaps in the database. Eventually, we succeeded in constructing a database on political families in Punjab that covers a period spanning around a hundred years. This is the most comprehensive and systematic data collection effort accomplished to date. Table A1 in the Online Appendix provides a snapshot of the overall format in which the requisite family-level information was compiled for the Attock district (north Punjab).[14]

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[13] For example, brothers and their children are directly related family members, whereas their spouses or the spouses of their children have become part of the family through marriage.

[14] Consider the first candidate for illustrative purposes. Our information bears not only on the participation of Sardar Shaukat Hayat in different election rounds but also on the possible participation of his relatives. In this instance, the only relative to have participated in elections is a son named Sardar Sikandar. Information was collected on the particular year in which this son contested or won an election.

In order to identify for each district the most entrenched political figures, such as those who have retained a strong electoral foothold since the pre-partition period, we created separate family charts. Figure 2, which provides a visual illustration for the Leghari clan of south Punjab, shows that it has enjoyed electoral presence since 1921. Its members have continuously participated in successive electoral contests, and they have been represented in all legislatures during the last century. This means that they have held more than 80 parliamentary seats during the period considered.

Since outcome data are measured at the decentralized level of the union council (UC) for which electoral data are not available, we need to spatially connect each UC in Punjab with the relevant parliamentary constituency, be it the National Assembly (NA) or the Provincial Assembly (PA). This has been done for the three most recent electoral rounds, 2002, 2008, and 2013. These election years are suitable for our purpose as they are close to the year during which the outcome data have been measured. Using our database on political families, we then define a political family as an entrenched dynasty if it held at least 11 distinct tenures over the entire electoral history of Punjab going from 1921 to 2013. A UC is considered to have been represented by an entrenched dynast if the politician elected in the constituency to which it belongs (NA or PA) is a member of an entrenched dynastic family thus defined. The threshold of 11 tenures or above is obtained from the 90th percentile of the distribution of tenures in our sample. Holding 11 tenures essentially means that the family has held power continuously, or almost continuously, since the early independence period. [15] Focusing on distinct tenures rather than all tenures has an important implication: if several members of a family won parliamentary seats in different locations in the course of the same electoral contest—as is the case with the Leghari clan (Figure 2)—we count these multiple electoral wins as a single tenure when determining whether the political family concerned is an entrenched dynasty. Clearly, our definitional approach is quite restrictive, aiming to pick up only the oldest and most entrenched political families.

4.2 Development outcomes and covariates

To properly test for the local development impact of dynastic power, we require a development outcome measured after the electoral cycle and does not represent pre-existing trend. . We thus ideally need variables in the nature of flows or changes in stock, such as they

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[15] Bear in mind that we consider a period covering 19 election events, any family can hold at most 19 tenures.

are observed at the UC level after the election in question. Unfortunately, only one variable that strictly satisfies these requirements is available to us, namely night light luminosity. For this outcome, we have data for both the pre-election level as well as variation observed after the election. The growth in night-time luminosity will therefore be our key development outcome of interest.

In addition to this general measure of growth and development, we have several other development indicators that are observed only for a single point in time. They are extracted from a large and representative household-level survey conducted across all the UCs of the Punjab. One of them is a measure of human capital and is a flow variable: the proportion of households in which no child at all was attending school at the time of the survey. Another variable is a household wealth measure based on the consumption and productive assets owned by a household. Measures of different assets are conceived as binary answers to the question as to whether a household owns them or not, and a value can be computed for each household by using multivariate analysis. More precisely, the asset index is constructed by taking the principal component of the variables representing the ownership of each of the five different assets in our dataset (television, car, refrigerator, washing machine and tractor). The index values thus obtained can, in turn, be aggregated over all the sampled households in each UC. The final step consists of assigning UCs a percentile rank (between 0 and 1) based on their index score. A key limitation in using this asset measure is that we do not have data for pre-election years. Yet, and although caution remains necessary, we believe that the problem is mitigated by the fact that we select assets that are durable consumption and production goods rather than fixed assets, such as house, farm buildings and land.

Because of their methodological limitations, estimates using the above education variable and household asset index, as well as road density (a measure of public goods), will be treated as supplementary evidence. We next provide details on the chosen development indicators.

NIGHTTIME LUMINOSITY. To construct the luminosity measure, we use fine-grained data on nighttime light intensity. Based on satellite images, the nighttime luminosity data is increasingly used as a proxy for economic activity and development at the subnational level where GDP data is either unavailable or unreliable. Studies have demonstrated a strong correlation between the nighttime light intensity and subnational economic and human development indicators (Henderson, Storeygard and Weil 2012; Costinot, Donaldson and Smith 2016; Donaldson and Storeygard 2016; Bruederle and Hodler 2018). While there are some caveats involved in interpreting the effects of night lights intensity, it is a convincing multi-dimensional measure

of development at the local level (Asher, Lunt, Matsuura, and Novosad, 2021). Our dataset on luminosity is based on the latest VIIRS compilation, which is based on a higher geo-spatial resolution and uses a procedure to correct for stray lights. We have obtained annual data spanning over the period 2014-2019, on the basis of which we compute the percentage growth in observed night lights during this period using VIIRS Stray light corrected day/night band composites. Road density (the proportion of an area covered by paved roads) is also obtained by using geo-spatial data.

HOUSEHOLD DATA. To construct our supplementary development outcomes, we leverage a large dataset for around 15 million households in Punjab. The database forms part of the National Socio-Economic Registry and was originally compiled to identify beneficiaries for the Benazir Income Support Program (BISP), one of South Asia's largest cash transfer programmes.[16] Apart from building a poverty profile of the surveyed households, the BISP survey collected information on a dozen key indicators, including household size, the type and quality of dwelling, educational status of family members, and household assets. Using the geo-coded information on households, we compute the proportion of households in each UC with different educational and wealth status at the time of the baseline survey (2011).[17] Specifically, based on the education module we compute the total proportion of households where no child was attending school and, based on the asset module, we obtain the proportions of households in a UC who own one of the following assets: television, refrigerator, washing machine, tractor, and a motorcycle.

COVARIATES. We construct several UC-level measures to be used as covariates in our analysis. To construct a battery of pre-determined covariates, we relied on the Union Council Reports for the 1998 Census and collected data on population density, the proportion of households with electricity connection, piped water, and the proportion of households using wood fuel. We also use geo-spatial tools to construct a measure of the distance of a UC from the nearest city.

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[16] Inspired by the World Bank's Poverty Scorecard, the BISP survey is a specialized door-to-door survey, which used the representative sampling frame of the Pakistan Social and Living Standards Measurement (PSLM) and collected core socio-economic data at household level.

[17] The baseline survey was followed by four subsequent rounds in 2013, 2014, 2016 and 2019.

4.3 Summary statistics

Using detailed political genealogies, we were able to map a total of 718 families that have at least one relative who either contested or won an election since 1921. Of these, 32 families have enjoyed at least 11 distinct tenures between 1921 and 2013. These are very large families with dozens of relatives participating in different election rounds (see Figure 2 for an illustration), and which have consistently been in power. In our sample there are 1,335 seats for which elections were held across national and provincial assemblies between 2002 and 2013. We count a total of 135 winners (or 10 percent) and 152 runners-up (11%) who are characterized as entrenched dynasts.[18]

At the lower level, we find that 2,606 UCs belong to constituencies that were held by dynasts while 2,855 UCs belong to constituencies where a dynast was a runner-up. Our empirical identification is based on close electoral contests where dynasts either narrowly won over or lost against a non-dynast. When the margin of victory is characterized as 7 percent, about 23 percent of the total electoral contests can be characterized as close elections. When the margin of victory is considered as 5 percent and 3 percent, the corresponding ratios of close elections are 13 percent and 10 percent, respectively. The summary statistics for our core variables are presented in Table 1. We present both mean values of our main variables and the difference between means of these variables in UCs served by dynasts versus non-dynasts. As Table 1 shows, there is a statistically significant difference in our main development outcomes between dynastic and non-dynastic regions. Specifically, areas ruled by dynasts have significantly lower luminosity growth, less educational attendance, and lower proportion of household assets. We will probe these patterns more systematically in Section 6.

5. Empirical strategy

5.1 Close elections regression discontinuity design: the approach

To identify the effect of dynasts on development we make use of the close elections regression discontinuity design. As applied to our case, this approach approximates an ideal experiment that randomly assigns dynasts to UCs, and then compares measures of economic

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[18] The 135 winners come from the 32 dynastic families mentioned above. Note that disaggregating numbers by NA and PA elections yields a broadly similar distribution across the two types of legislatures.

development in UCs that have elected a dynast to those that have elected a non-dynast. The approximation works by restricting attention to close elections between a dynast and a non-dynast, with the exposure of UCs to dynasts considered to be essentially random. Such an assumption has been used extensively in the empirical literatures on politics (Brollo and Nannicini 2012; Pettersson-Lidbom 2008; Fiva and Smith 2018) and development economics (Asher and Novosad 2017; George 2020; Prakash, Rockmore and Uppal 2019; Clots-Figueras 2012). It is also well grounded in the established literature on applied econometrics (Eggers et al. 2015; Lee and Lemieux 2010; Lee 2008; Imbens and Lemieux 2008).

In formally documenting the impact of dynasticism on economic development, we estimate the following regression model:

$$Y_i = \alpha + \beta \, Dynast \, win_i + f \, (Dynast \, vote \, margin)_i + \delta X_i + \varepsilon_{it} \qquad (1)$$

In the above specification, Y_i denotes the development outcome measured in the post-election period in UC i, *Dynast win$_i$* is a binary variable indicating whether a dynast has represented UC$_i$ in either the national or provincial elections during the period 2002 to 2013. The running variable *Dynast vote margin$_i$* is the difference between the dynast and the non-dynast vote shares. X_i is a vector of union council-level characteristics that are included as controls in our analysis. Finally, in all our main specifications *f(.)* is a non-linear function of the running variable (*Dynast vote margin i*) that is approximated through kernel-weighted (triangular kernel) local linear regression.

The coefficient of interest in equation 1 is *β*. It measures the average difference in the development outcome Y_i between UCs where a dynast narrowly wins (strictly speaking, UCs belonging to a constituency where a dynast narrowly wins) and UCs where a dynast narrowly loses (belonging to a constituency where a dynast narrowly loses). Concretely, *β* measures the average difference in the growth of nighttime luminosity between the two types of UCs.

An important decision to make when implementing the close elections RD design is the choice of the bandwidth for margin of victory values that constitute a close election, in this instance the bandwidth around the dynastic margin cut-off for computing the RD estimate. In making this choice we follow standard practice in the applied econometrics literature by adopting a data-driven approach for bandwidth selection. Specifically, we followed the suggestion in Cattaneo et al. (2019) and chose the approach that minimizes the mean squared error (MSE) of our local polynomial RD point estimator. Based on our main measure of local economic activity (i.e., growth in nighttime luminosity), for example, we also show the

robustness of our results to the manual selection of bandwidths that are 7%, 5% and 3% to the left and right of the dynastic margin cut-off, respectively. *5.2   Close elections regression discontinuity design: the issue of validity*

To demonstrate the validity of the close elections RD design in our setting, we need to carry out a number of tests. To begin with, we show that areas that narrowly elect a dynast are similar along a series of important development dimensions to areas that narrowly miss electing a dynast. All these dimensions are determined prior to the earliest election year in our dataset and, therefore, can be considered as relatively pre-determined. They consist of pre-period population density, pre-period public goods provision and distance to the nearest city. In Table 2 we carry out formal tests for continuity around the dynastic margin cut-off for each of these dimensions. As the estimates in Table2 show, none of the pre-determined covariates shows a discontinuity across the dynastic margin cut-off of zero. For each covariate, the RD estimate in column 2 is insignificant and the confidence interval in column 4 includes zero. The smoothness of these important pre-determined covariates around the dynastic margin cut-off provides evidence against our 'dynastic effect' being driven by pre-existing differences in development between areas that narrowly elect a dynast and those that narrowly elect a non-dynast.

Another important concern concerning the applicability of the close elections RD design to our setting is the possibility that the electoral system is being manipulated by dynasts in ways that systematically favor their election. If this were the case, we should observe a discontinuity in the density of our running variable around the dynastic margin cut-off.[19] Accordingly, in Table 3 we perform both the McCrary (2008) and the Cattaneo et al. (2019) tests for detecting a discontinuity in the density of our running variable at the dynastic margin threshold of zero. As the results show, neither of the two tests rejects continuity in the running variable around the dynastic margin cut-off. Figure 3, which is based on the McCrary test and is visual analogue of Table 3 (the bold curves give the estimates while the dashed curves correspond to a 95% confidence interval), confirms the result that dynastic candidates are not able to systematically manipulate the electoral process in ways that affect their chances of election.[20]

In this connection, it is revealing that when asked about whether they have been persuaded to vote through bulling and threats, the overwhelming majority of respondents in a nationally

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[19] If, close to the zero-margin threshold, a lot of dynasts appear to have won the contested seat, there is a suspicion that they have manipulated the electoral process.

[20] The figure based on the other test is pretty similar and is therefore not displayed.

representative electoral survey (FAFEN 2017) have answered negatively. This lends further support to the identifying assumption for our RD analysis.

6. Main results

Using regression discontinuity research design as set out in equation (1), we estimate the impact of high-tenure (entrenched) dynasts relative to non-dynasts on different development outcomes measured at the UC level and using the time window around elections. We present results for our main indicator, growth in nighttime luminosity, and for a series of supplementary measures: measures of public goods provision in the form of human capital (school attendance) and infrastructure (road density), and for private (consumption and production) goods represented by household assets. As is standard practice in the literature, we show visual evidence of discontinuities before presenting the RD estimates.

6.1 Visual evidence of discontinuities

In Figures 4-6 we provide a visual evidence of the RD estimates in equation 1. Each figure contains a set of scatterplots of the conditional mean of the relevant development outcome on the y-axis and the margin of victory for the high-tenure dynast on the x-axis. Locations to the right of the zero line were narrowly won by high-tenure dynasts while those on the left of the zero cut-off were narrowly lost by them. Each point represents the mean of the relevant development outcome within the bins of margins of victory on each side of the cut-off. In panel (a) of each figure, we display the linear best fit, represented through solid lines on either side of the cut-off, while the corresponding confidence intervals are represented by dashed lines. In panel (b), fitted lines are estimated semi-parametrically through kernel-weighted local linear regression, with MSE-optimal bandwidth. As before, the dashed lines represent 95 percent confidence intervals.

Figure 4 provides a visual evidence of the discontinuity for the growth of nighttime luminosity during the period 2014-2019. Both panels (a) and (b) reveal a sizeable negative discontinuity for luminosity growth for locations in constituencies where high-tenure dynasts narrowly won over other candidates. In the said period, Pakistan was suffering from widespread electricity shortages as is evident from the overall negative range of luminosity growth. However, the growth in nighttime lights intensity was noticeably more negative in regions

where high-tenure dynasts narrowly won over non-dynasts (compared with regions where high-tenure dynasts narrowly lost to their rivals).

Next, we provide visual evidence of discontinuities around the threshold for win margin regarding our supplementary development indicators. Figure 5 does this for educational attendance, measured as the proportion of households where no children were attending school at the time of the survey (Figure 5). As Figure 5 shows, there are noticeable discontinuities along the zero threshold regardless of whether we use a linear fit (panel a) or semi-parametric fit (panel b) for the scatter plot. There is a sharp discontinuity at the threshold, showing a noticeably higher proportion of the outcome variable to the right of zero. Thus, regions that fell in constituencies where high-tenure dynasts had a narrow win tend to have significantly higher proportion of households whose children were not attending school. Finally, in Figure 6 we display a scatterplot for the unconditional mean of an asset index that aggregates household-level information for ownership of television, car, refrigerator, washing machine, and tractor. Again, there is a discernible discontinuity reflected in a clear jump at the cut-off for margin of victory: significantly lower values of the asset index are observed for regions to the right of the zero line.

6.2   RD Estimates

We next present regression discontinuity estimates of the effect of an entrenched dynast on constituency-level development outcomes, defining such a dynast as someone who belongs to a family with at least 11 distinct tenures in the parliament. Bear in mind that by distinct tenures, we mean seats won over different elections, with a maximum of one seat for a separate election (either in a PA or a NA). The (main) outcome variable is growth in night-time luminosity during the electoral term in which a candidate is elected (eg. between 2008 and 2013 for a candidate elected in 2008 for a 5-year term). The sample compares union councils (UCs) located in constituencies where a dynast narrowly won to UCs in constituencies where a dynast narrowly lost. All specifications include the following pre-determined covariates as controls: the natural log of the distance to the nearest city, the log of distance to the UC border, the length of railroad coverage per square kilometer measured in 1992, the length of waterways in square kilometers in 1992, and prior luminosity growth as measured over the period 1992-99. . Standard errors, clustered at the sub-district level, are reported in parentheses. Results are presented in Table 4. In Columns (1) to (3), we impose bandwidths of 7%, 5% and 3%, respectively, while in Column (4), we use a bandwidth endogenously generated through the MSE-Optimal option. The estimate on dynastic legislator indicates that, where elections were closest, constituencies with

entrenched dynasts exhibited significantly lower growth in nighttime luminosity over the relevant electoral cycle. The estimated effect is negative and statistically significant (even highy significant for bandwidths of 3% and 5%) across all specifications displayed in Table 4.

In Table 5, we investigate the effect of a dynastic legislator on several supplementary indicators derived from the BISP dataset. As indicated earlier, these results should be read with a degree of caution as the underlying household data is available at only one point in time, precluding us from computing growth over the electoral cycle. As in Table 4, all specifications include the set of pre-determined covariates. Local linear estimates are obtained by using the MSE Optimal bandwidth. Column 1 reports the estimated effect of a dynastic legislator on the proportion of households with children of school-going age who did not have a single child attending school at the time of the BISP survey. This is a good proxy for the incidence of out-of-school children, which is a persisting concern in Pakistan. Consistent with the visual evidence presented earlier, we find that in constituencies where a dynast narrowly won over a non-dynast, the proportion of such households is significantly lower. The estimated effect of a dynastic legislator is negative and statistically significant at the 95 percent level.

In column (2), we present the results for an aggregate asset index constructed by using multivariate analysis for five different assets: television, car, refrigerator, washing machine, and tractor. With the exception of the tractor, which is a productive asset in agriculture, the asset index primarily consists of durable consumption goods. Each component of the asset index corresponds to the proportion of households in a UC who own the relevant asset. As is evident from column (2), the coefficient is negative and statistically significant: constituencies with a dynastic legislator exhibit a significantly lower value of household wealth. Finally, in column (3), we consider the effect of dynastic power on the log of road density, and find that the effect is statistically insignificant. We defer to Section 7 the discussion of this ambiguous result. To summarize, our results using multiple proxies for local development paint a consistent picture. Entrenched political power causes lower economic development as reflected in relatively lower luminosity growth. There is also evidence that constituencies where entrenched political dynasts narrowly won have had worse educational attendance performances and lower asset ownership than those where they narrowly lost.

6.3   *Robustness and falsification tests*

Before delving into the interpretation of our results, we perform several robustness tests. We start by verifying that the effect of entrenched dynastic power is not explained away by the

confounding effect of entrenched personal power or incumbency advantage. In other words, does the adverse effect of entrenched family dynastic families persist after controlling for the past personal electoral achievements of the close winner? To test for this is possibility, we construct a variable that measures a winning candidate's personal hold over power as opposed to his family's, which is what our dynast variable accounts for. We call this variable the 'personal power index'. In constructing the index, to ensure that every winning candidate starts from the same base, we assign a value 1 to each winning candidate in our dataset. We then add to that base value the value of the ratio of the number of past victories to the number of past contests for the winning candidate, weighing that ratio by the number of his past victories. The weighting is done so that a candidate who has won more victories in the past gets a higher score on the index regardless of the ratio between past victories and past contests.[21]

The personal power index is used in two ways. First, we test for the discontinuity of its values around the cut-off point. As the final row in Table 2 shows, the RD estimate for the personal power index is negative but statistically insignificant. Also, the confidence interval for the estimate includes zero (see column 4). There is thus no evidence of significant discontinuity for the index in constituencies where high-tenure dynasts narrowly won over non-dynasts. Second, we assess the robustness of our main result on luminosity growth by controlling for the personal power index. This is done by adding it to our list of covariates in Table 6. The results are documented for different bandwidths: 7% (cols. 1-2), 5% (cols 3-4), 3% (cols. 5-6), and MSE optimal (cols. 7-8). As the results indicate, both the coefficients and statistical significance of the RD estimate for dynastic legislator remain unchanged after the inclusion of an index of personal power

Next, we perform a sensitivity analysis to examine how the impact of dynastic families on local development might change when we gradually lower the tenure threshold used to define an (entrenched) dynast. This is done in Table 7 where we see that the effects on two of our development indicators (night lights growth and asset index) start to become inconsistent once the level of 7 tenures is reached. Moreover, when the threshold is further lowered, the direction of the effect is inverted: (low key) dynasts have a positive impact on local development, thus underlining the contrast between the behaviors of entrenched and non-entrenched dynasts.

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[21] For instance, a winning candidate who has won three out of six electoral contests gets a higher score on our index than a candidate who has won two out of four electoral contests.

We also carry out an important falsification test by re-estimating our baseline regression discontinuity specification using placebo cut-offs for the MSE-Optimal bandwidth. The objective is to investigate the possible discontinuities in luminosity growth as we move further away from the true threshold associated with electoral wins. Finding significant discontinuities by using these placebo thresholds would cast doubt on the smoothness assumption needed to validate the RD design. Results using placebo thresholds are reported in Table 8. The first two rows of Table 8 report the estimate for the RD specification using placebo cut-offs below the zero threshold, while the final two rows report the corresponding RD estimates for two placebo cut-offs above zero. In row 3, we reproduce the estimates for our baseline specification. The corresponding p-values and confidence intervals are reported in columns 3 and 4, respectively. As the results indicate, there is no evidence for significant discontinuities when using any of the placebo thresholds. This provides reassuring evidence for the statistical validity of our RD design.

Finally, as another falsification exercise, we conduct the donut-hole analysis that assesses the robustness of our main RD results to the exclusion of observations that are very close to the cutoff. In our close-elections RD design, observations that are closest to the cut-off are vulnerable to manipulation, which can cast doubt on statistical validity. Apart from ruling out the possibility of manipulation, another benefit of this exercise is that it helps to assess the sensitivity of local polynomial estimation to a few observations closest to the cutoff (Cattaneo et al. 2019). Accordingly, we exclude observations that fall within the radius of two progressively increasing thresholds. The first radius (i.e., 0.20) results in the exclusion of 7 closest observations to the right of the threshold whereas the second radius (i.e., 0.25) results in the exclusion of 32 observations to the left of the cutoff. As Table 9 shows, our main findings are largely insensitive to excluding these observations close to the threshold. The RD estimates remain negative and statistically significant.

7. Building up a consistent story: qualitative insights and further results

7.1 Combining theoretical and field study insights

Our results suggest that political dynasties are harmful to development, thus invalidating the predictions of Asako et al. (2015) and Besley and Reynal-Querol (2017). In this section, we propose an interpretation that is consistent with our data and anthropological evidence drawn

from micro-field studies. Before we proceed further, a preliminary remark is in order. As emphasized in Section 3, clientelism is an all-pervasive feature of Pakistani politics. Therefore, we cannot seek an explanation simply based on the opposition between dynasts operating under clientelistic politics and non-dynasts operating under what Bardhan et al. (2020) have called program politics. This forecloses the possible explanation according to which non-dynasts are more motivated to provide public goods and foster local development because they escape the narrow logic of clientelism. Relatedly, the point of departure for our discussion is a query suggested by another lesson from Section 3: political clientelism in Pakistan is generally competitive. If local political monopoly may exist in some UCs, these are not the localities that our methodology picks up since our sample is deliberately restricted to those UCs where either a dynast narrowly won against a non-dynast, or a non-dynast narrowly won against a dynast. In the light of these considerations, both factual and methodological, the question arises as to how entrenched dynasts can afford to be under-performing when they have to seriously compete with other contenders who also resort to clientelistic practices in order to seduce voters?

There are three possible ways to solve this puzzle. First, if it seems difficult to imagine that dynasts relax their efforts in the presence of a serious political opposition, it is not unrealistic to think that their political strength is negatively affected by a problem of adverse selection (see George, 2019). Having been nurtured in the comfortable environment of election victories, scions of big political families who have been propelled to the electoral battlefield do not necessarily have the qualities and skills required to be effective leaders. If they nevertheless win the elections they contest, it is presumably because advantages conferred by dynastic families, such as financial and other form of support from the network, a better ability to bargain with higher-level authorities, and name recognition (Asako et al., 2015), outweigh their shortcomings. Still, in the long-repeated game of successive elections, it is hard to see how dynasties can be sustainably maintained in power in a competitive environment in which their representatives are under-performing.

A second explanation is grounded in the role of electoral competition in the Acemoglu and Robinson's political theory of economic backwardness (2006b). As pointed out in Section 2, the central idea is that when they are exposed to strong competition political elites strive to increase their future economic rents, which implies that they promote technological and other change conducive to local development. By contrast, when they are in an intermediate situation between intense competition and power monopoly, they have an interest in blocking development to preserve their political domination. We can plausibly hypothesize that what we

call entrenched dynasts occupy the intermediate position since, although they are subject to close competition, their families have been able to maintain themselves in power through most of the election period. Under this hypothesis, the prediction of Acemoglu-Robinson appears to be borne out by our results of Section 6. Under the alternative hypothesis that entrenched dynasts are exposed to indisputably strong competition, the opposite conclusion is reached (the theory is invalidated). We propose a way to test which of the two hypotheses is more valid. We can compare the impact of dynastic power on local development in two different political contexts: the context in which a dynast has narrowly won against a non-dynast (the close election setup used in Section 6) and the context in which a dynast won by a comfortable margin, thus indicating an easy electoral victory.

A third approach, directly inspired by in-depth field studies of micro-level social and political processes, distinguishes between two brands of clientelism, one reactionary and the other progressive. Depending on which kind they belong to, the patrons deliver differentiated services to their voting blocs: while entrenched dynasts supply livelihood-protecting services (LPS), which are hampering development, non-dynasts offer livelihood-enhancing goods and services (LEGS), which promote development. It bears emphasis that if the available outcome indicators can measure LEGS reasonably well, they essentially miss the LPS. Therefore, the asymmetry of performances between dynasts and non-dynasts in our data does not indicate the inability of dynasts to deliver advantages in comparison to non-dynasts, but a measurement bias: different types of political patrons need to be judged according to different yardsticks while these yardsticks are unequally detectable in the data. Let us now give some precisions about what constitutes the LPS and the LEGS and the characteristics of the political leaders or brokers who provide them to their client voters.

As we have learned from Section 3.3, micro-field studies reveal that, schematically, two main types of political leaders or brokers coexist. On one side, we find 'traditional' elites whose power and influence are rooted in land, religion and historic status. They have a vertical, individualized patron-client relationship with their constituents who depend on them economically and therefore wield weak bargaining power.[22] The voting blocs are thus

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[22] Here is how Nicholas Martin (2016: 33) describes the behavior and perceptions of reality among the common people dependent upon big traditional landlords: "People's mentality was such that if a kammi stood up to contest elections everyone would laugh at him. Not only would the chowdris laugh at him (and possibly punish him for insubordination), but his fellow kammis would also find him ridiculous… people would completely discount a poor politician who didn't campaign with a large convoy of cars and cohort of gunmen". The poor worship the outward signs of power and wealth, and believe that only the rich and powerful can effectively deliver patronage. Moreover, "most kammis were illiterate and

hierarchical organizations and, in exchange for their allegiance, which involves voting as their landlord prescribes, the clients are entitled to benefit from a variety of services aimed at helping them surmount temporary difficulties, guarantee their physical security and maintain their scant livelihood. Among the most-oft cited services required of their patron are: supplying consumption loans meant to tide over the lean season, face income shortfalls, or meet social and medical expenditures; granting identity cards that allow access to subsidized subsistence goods; providing help to get admitted into hospital; ensuring protection against the local police and legal defense in local court cases, particularly those involving land disputes.[23] These are precisely the sort of livelihood-protecting services that are never systematically measured in field surveys, especially when run on a large scale.

On the other side are political patrons coming from upwardly mobile sections of the population, such as the members of the peasant castes described by Jan (2019) or the 'Navay Raje' described by Armytage (2019). Many of them are political and economic entrepreneurs possessing a modern outlook and eager to prove themselves through self-made achievements rather than through inherited wealth and prestige. Typically engaged in multiple activities including non-agricultural pursuits, they rely on the horizontal networks of their clan (biraderi) or on portions of their extended family network combined with outside allies (Mohmand, 2019: Chap. 6). In matters of labour relations, in particular, they tend to use cooperative arrangements instead of vertical patron-client relationships. Because their voting blocs resemble the sort of kinship-based organizations reported by Cruz et al. (2017) for the Philippines, these political elites are more likely to promote public goods that benefit the whole group, especially if the factions constituting the voting blocs are fractionalized (see Section 1).

Among local public goods, there seems to be a preference of politicians for rural roads: in Pakistan the largest proportion of development funds allotted to MNAs and MPAs by the central government (see Section 2) have been spent on roads, more particularly small feeder and farm-to-market roads (Hasnain, 2008: 141; Malik, 2019: 5). There are three reasons for this. First

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would therefore be unable to deal with the bureaucratic paperwork that characterized most encounters with the state… unlike the Gondals, kammis didn't have the social capital in terms of connections with influential officials that would allow them to deliver patronage".

[23] Bardhan and Mookherjee (2012) call 'inferior' consumption goods these LPS made in favour of select poor groups of voters in an implicit quid pro quo for their political support. As illustration, they cite access to employment in public works, subsidized food, low-income housing or help in coping with personal emergencies, all of which create a bias in favor of recurring private benefits rather than one-time long-term benefits (Bardhan and Mookherjee, 2012).

and foremost, these funds are explicitly required to be earmarked for infrastructural investment. Second, since it is rather easy to establish the relationship between the action of a particular politician and the result, credit can be claimed for the ensuing project.[24] Third, we know from other studies (Olken, 2007, for Indonesia) that funds used for road construction and similar types of investments have a great potential for resource capture.

In general, clients under this more progressive system of patronage tend to favor personal advantages in the form of jobs (including fake ones), licenses, contracts, fake high school matriculation certificates, etc. (Hasnain, 2008: 142-5; Martin, 2016: 67, 83-6, 132).[25] Access to jobs is the most prized among these advantages (Wilder, 2009: 34). The regular earnings of a stable employment, in particular, are actively sought after because they serve as an insurance against all sorts of hazards as well as a capital fund available for (risky) investments.[26] Overall, these goods and services are more conducive to development than the services provided by traditional patrons-cum-politicians.

To yield a consistent story, the differentiation of the political market must be verified not only on the supply side –political families or networks with different characteristics offer different patronage services in exchange for votes– but also on the demand side. If demand were homogeneous, one would see that one form of patronage is gradually displaced by the other. Thus, if people all wanted to get access to education and jobs in the formal sector, for themselves or their children, traditional political patrons offering LPS would have to adjust to that demand or face the prospect of disappearing from the political scene. The reality looks different, though. Some people, because they are quite poor and vulnerable to shocks, prefer to place themselves, or remain, under the dependence and protection of a powerful landlord who

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[24] Hasnain (2008) argues that to get elected politicians must credibly communicate to voters that they were personally responsible for certain improvements in their lives, and this requirement tends to favor targeted benefits, or patronage, rather than public goods (p. 130). In fact, voters are also likely to know who is responsible for the delivery of public goods and, hence, Hasnain's argument is insufficient to explain the predominance of private goods or services under patronage politics.

[25] Illustrations of fake jobs abound in Martin's book. For instance, he tells the story of a domestic servant of the younger brother of a newly emerging (Gondal) political patron. He was placed into the payroll of the South-Korean company Daewoo, although he never actually worked for the company. The arrangement basically allowed his master to have a servant for free, and, as the salary was quite high, the master also appropriated part of it for himself (Martin, 2016: 85, footnote; 89).

[26] Robinson and Verdier (2013) have provided a theory of clientelism, which explains why redistribution often takes the form of public sector employment rather than income transfers or public goods: they argue that a job is a credible, selective and reversible method of redistribution which ties the continuation utility of a voter to the political success of a political patron. Even if individual votes are unobservable, this renders the clientelistic exchange incentive compatible, thus overcoming the two-sided problems of enforcement involved in such exchange.

guarantees their subsistence yet requires a submissive attitude and opposes any emancipatory move (see Scott, 1976, for a detailed account). Other people, however, are eager to improve their lot, and they wish to enter into the network or the voting bloc of a more progressive patron from whom LEGS can be obtained.

Congruent with Acemoglu and Robinson (2006b), traditional elites may deliberately seek to block development. A preferred way to achieve this end is by thwarting efforts to promote universal education, as argued by Bourguignon and Verdier (2000). There is evidence that such a mechanism is also at work in Pakistan, and in the Punjab province in particular. Martin (2016, p. 87) thus explicitly mentions the tendency of traditional landlords to oppose the (secular) education of their dependents lest they should seek emancipation and develop "unrealistic expectations", and thereby cause a shortage of cheap agricultural labor. They prefer to encourage Islamic education, which inculcates moral values through the reading of the Quran (p. 87). It is therefore not surprising that when they act as political leaders or brokers, these landlords may go as far as diverting school buildings from their intended function by using them as cowsheds, farm buildings, accommodation for some relatives, and the like (p. 133). Moreover, schools are often of poor quality because of commissions given to contractors. Teachers themselves are then 'ghost teachers' who never turn up for their duty, and place false entries into the attendance registers (p. 88). Their time and energies are diverted to other uses that serve the interests of their patrons who protect them from disciplinary action. In some cases, primary school teacher posts are sold by politicians and bureaucrats for large amounts of money, thus inducing the beneficiaries to take side jobs to repay their loans (Hasnain, 1988: 137).

These circumstances are far from exceptional: the phenomenon of 'ghost schools' is well-known in the country following a survey (1998) which found those schools to number over 5,000 in a single division (Zahab, 2020: 82). Because the enumerators were pre-announced in the selected villages, the figures provided by this survey were obviously underestimated, however. Being based on unannounced inspections, a later survey is more reliable (Gazdar, 2000). It concludes that 38% of the sampled rural schools are functional, 33% are partly functional, and 29% are dysfunctional. Because the requirements for being functional are relatively modest, this study paints a bleak picture of the situation. The same study shows that there exists a wide discrepancy between enrolment and attendance: in around a quarter of the schools which were opened at the time of the survey, less than 50% of the enrolled pupils were in attendance and less than half of the opened schools had pupil attendance rates of 75% or

more (p. 52). Interestingly, Gazdar stresses that school failure is partly due to weak demand for public education on the part of some groups or communities (p. 78).[27] It barely needs to be added that the problems afflicting schools also exist for health units and dispensaries, post offices, and other public services. This helps explain why Pakistan performs so poorly on social outcomes, controlling for income levels and growth (Easterly, 2003).

In the foregoing account, we suggest that two types of clientelism tend to coexist and compete for votes. In this milieu, it seems difficult for non-entrenched dynasts to adopt behavior characteristic of well-entrenched elites, simply because they do not possess the type of vertical patronage organization available to the latter. This perspective suggests a possible approach to combine the insights derived from the political theory of economic backwardness of Acemoglu-Robinson with the micro-study evidence provided by social scientists. When they are subject to intense competition, traditional elites opt for a mitigation of their anti-development strategies whereas they give vent to these strategies when their political power is more comfortably installed and they have become entrenched dynasts. They are then in the position of what the aforementioned authors have called "semi-entrenched dynasts": political leaders whose power is well established yet not enough to shelter them fully against the effects of political competition.

In order to bring empirical support for this story, two sets of exercises can be performed on the basis of the quantitative data available. First, we verify that the entrenched dynasts typically belong to traditional elites and provide LPS to their client voters. Second, we examine whether the behavior of these patrons varies depending upon the intensity of competition they are exposed to. For the first task, we will verify the existence of an association between dynastic power and the reactionary type of political patronage, as measured, successively, by selected socio-political attitudes of the voters and by the historical antecedents of political families. As for the second task, we investigate whether the adverse effect of entrenched dynasticism on local development persists after controlling for the possible influence of family background. Then we check whether the impact of dynastic power possibly varies according to whether dynasts win elections by a close or a comfortable margin.

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[27] Another worthy observation is that teachers may in some cases be willing to surrender as much as half their salaries in order to escape the duty of attending school. They are essentially happy with the reward consisting of the lumpsum pension of 2-3 lakhs that they receive at the end of their careers (p. 80).

7.2   *Looking for quantitative evidence: the first task*

DYNASTIC DOMINATION AND SOCIO-POLITICAL ATTITUDES OF VOTERS

Does a correlation exist between dynastic power and the reactionary type of political patronage? To address this question, we first combine our dataset with a representative constituency-level survey of voters conducted by FAFEN (Free And Fair Election Network). A constituency (a UC) is characterized as dynastic when more than half of the candidates elected to the national assembly between 2002 and 2013 have been entrenched dynasts. For our analysis we select questions in the FAFEN survey that are presumed to be good proxy measures of the forms of clientelism discussed previously. Specifically, we examine three sets of questions: those bearing on the determinants of voting decisions, those measuring trust in formal institutions, and those investigating the role of informal arrangements for dispute resolution. We are interested in whether voter responses differ significantly between dynastic and non-dynastic constituencies.

Results are reported in Table 10. We report both mean responses in the sample and the difference in means between dynastic and non-dynastic constituencies. As Table 10 shows, there are statistically significant differences in voter responses to the selected questions in dynastic constituencies relative to non-dynastic areas. First and foremost, the voting decisions of people living in dynastic UCs are significantly more influenced by traditional leaders, such as tribal chiefs, and by considerations related to their physical security (protection in front of the police and the courts). By contrast, they are less influenced by local development outcomes, such as past projects (see Panel A). Second, although mistrust in formal institutions is distressingly high in Pakistan, it is significantly more pronounced in dynastic UCs (see Panel B). Lastly, in the same UCs, people tend to express a stronger preference for having their disputes, whether personal or collective, resolved by the panchayat which, in Pakistan, is an informal institution (see Panel C). The idea here is that preference for informal, highly personalized arrangements is more characteristic of localities persistently dominated by traditional authorities. While purely suggestive, this evidence is consistent with the different type of clientelism that we believe is prevalent in dynastic constituencies. Voters in these constituencies are tied in vertical forms of patronage where dispute resolution is personalized, tribal authority shapes political preferences, and assistance with police and courts determines voter choices. This is remarkably consistent with our prior that entrenched dynasts specialize in livelihood-protecting services (LPS) rather than the more generic livelihood-enhancing goods and services (LEGS).

DYNASTIC POWER AND FAMILY PROFILE

For our second exercise, we want to check whether we can find evidence in our data of a correspondence between entrenched dynasts and traditional elites. A straightforward way of proceeding is by comparing the distribution of dynasts and non-dynasts as per their status and their occupation. To measure a traditional elite status, we consider the three following categories: zamindars, historical elites, and shrine guardians (or pîrs). Zamindar is a broad category that encompasses the main pool of agrarian elites from which dynastic families have emerged in rural Pakistan. Within them are large and medium land-owning families, and families with more or less historic influence. Next, we have the historic elites that are narrowly defined as those who participated in pre-partition elections held under British rule. These are typically members of agricultural tribes who were major landed aristocracies of Punjab and benefited from the restricted enfranchisement of the British in the 1920s. Historical elites are typically families whose ancestors were officially recognized by the British colonial authorities as important pillars of their rule, and whose names are therefore featured in official documents and gazettes of the time.

The last category is of shrine elites who are associated with prestigious religious institutions of Sufi culture. Seen as historical missionaries of Islam, they used to dispense important welfare and judicial functions (distributing food, healing ill people, acting as mediators in local land disputes, punishing deviant behaviour, enforcing norms of decency), and they have historically acted as a crucial link between the rural populace and central political authority. Being the guardians of religious pilgrimage sites, they (or their descendants) are considered holy and therefore wield considerable spiritual influence. Because, over successive generations, they have accumulated a lot of wealth as a result of gifts from disciples and patronage from the courts in Delhi and later from the British colonial authorities, they have also come to form a strong landed aristocracy embodying material as well as spiritual power (Martin, 2016: 150, 157).[28] The pîrs command a large network of devotees, which explains why they are actively coveted by politicians and why there is a deep connection between Sufism and politics (Malik and Malik, 2017). Interestingly, a recent study (Malik and Mirza, 2018) shows that areas

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[28] Today, the material success of pîrs possibly casts doubt on their religious legitimacy among common people. According to Martin (2016), the latter see them as hypocrites, more interested in their Lexus Land Cruisers and suburban homes than in people's welfare. They are perceived as exploiting their position to extract rents, pray for the sake of showing off, preach Islam while they themselves drink, frequent prostitutes, steal government money, and protect smugglers and thieves. This is a far cry from the ascetic behavior of the original Sufi masters (pp. 157-8, 163).

with a greater concentration of shrines experienced a substantially retarded growth in literacy over the long run. The explanation adduced by the authors is that, being more wary of modern education that can undermine their power, the pîrs suppressed its expansion in the areas under their control. This explanation obviously echoes our previous discussion under Subsection 7.1.

It is important to emphasize that some of these categories are overlapping: for example, the shrine dynasts are invariably also members of landed gentry, and many of them actually entered into electoral races during colonial rule. In addition to their family background, the composition of dynasts is also described in terms of their occupational status (e.g., agriculture, business, public administration, etc.). The occupation categories are ascribed to individual contestants rather than families. All the required information has been obtained through detailed searches, based on a wide variety of sources, into the characteristics of close election winners and losers and their families. Note that unlike the status categories, occupational categories are mutually exclusive so that an occupation indicates the main activity of a politician.

Tables 11 and 12 display the distributions of entrenched dynasts and non-dynasts, across status and occupation, distinguishing between NA and PA elections. The tables aggregate data from 2002, 2008 and 2013 elections, and distinguish between different definitions of what makes a dynast or a non-dynast. From the comparison of the two tables, several striking results emerge.

First, a majority of legislators are zamindars, whether dynasts or non-dynasts and whether we adopt our definition of dynasts (≥ 11 tenures) or an even more stringent one (≥ 13 tenures): this is the case for 85% and more of the entrenched dynasts and for more than 70% of the non-dynasts.[29] This lack of substantial difference is the result of the fact that the zamindar category is heterogeneous in the sense that it encompasses both large and medium-sized landed families. Unfortunately, we do not have precise data on land-ownership size that would enable us to make the necessary distinctions. Zamindar dynasts generally come from well-established landed aristocracies (the 'bade zamindars' mentioned in Section 3) while, as we can judge from a careful look at the names of the families, the non-dynast zamindars are typically middle-level agriculturists many of whom are members of the upper peasantry (a "gentry").

Second, there is a marked difference in the representation of historical families between dynasts and non-dynasts. Thus, about two-thirds of the dynasts come from historic families if

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[29] To have held 13 tenures actually means that the family has been continuously in power since the start of the independence period.

we adopt the 11-tenure definition of dynastic power and the proportion is even higher (85-90%) if we adopt the 13-tenure definition. By contrast, the representation of historic families among non-dynasts amounts to hardly 3%, regardless of the definition used and whether we consider NA or PA seats. The same pattern is observed for religious authorities (shrine guardians): whereas close to one-third of the dynasts belong to religious families according to the 11-tenure definition, and even more (38-42%) if we use the 13-tenure definition, the corresponding proportions for non-dynasts are of the order of 10% for the NA and only 3% for the PA. Clearly, in Punjab, an overwhelming majority of entrenched dynasts come from old landlord families, some of whom also claim shrine-based religious authority.

Third, turning to the lower half of Tables 11 and 12, we detect another stark contrast between dynasts and non-dynasts: while the former are pre-dominantly engaged in agriculture, this is not the case for the latter. At least 85% of the dynasts are involved in agricultural activities as compared to about 60% for the non-dynasts. Business comes second as the most important occupation among non-dynasts, since about one-fourth of them are business people (compared to a maximum of 9% for dynasts). Moreover, when we look at correlations between status and occupation for dynasts (see Appendix Table A2), we find that the zamindar, historical, and shrine families are significantly associated with agriculture. As expected, the correlation between status and occupation (agriculture) is especially strong for zamindar families. Also, as expected, there is a significant correlation between historic and religious families. The picture is somewhat different when we look at the correlations for non-dynasts (see Appendix Table A3). There is now a significantly negative correlation between belonging to a zamindar or a shrine guardian family (or even a historic family) and involvement in business. Also, the correlation between belonging to a historic family and involvement in agriculture is now much lower, and the same holds true for shrine families.

To summarize, political dynasties in Punjab essentially consist of traditional landed elites with aristocratic claims, thus confirming the view that landed power remains the mainstay of the economic and political power in rural Punjab (see, e.g., Javid, 2012: Chap. 5-6). They thus continue to be a pivotal basis of support for the government and the powerful military who continue to play an outsized role in the country's politics.

7.3 *Looking for quantitative evidence: the second task*

CONTROLLING FOR FAMILY TYPE

Given the strong correlation between entrenched dynasticism and traditional family background, we need to verify that the latter is not a confounder in our analysis. To test for a possible confounding effect of dynasticism, we re-estimate our basic regressions by adding family profile to the list of covariates, and check whether the coefficients of the original explanatory variable (dynasticism) remains significant. The results for growth in night time luminosity are presented in Table 6 where in addition to controlling for the personal power of the winning candidate we also control for his (or her) shrine, historic and business status. The results show that the coefficient of the dynastic variable remains highly significant and retains the same sign and about the same magnitude as in the main regression.

We carry out the same test of robustness to the family status of the winner for our other development outcomes (asset index, educational attendance and road density). Controlling for whether the winner comes from a traditional family also maintains the basic pattern of results for these other development outcomes. We have not shown these results in the paper, but they are available upon request. Overall, the effect of dynastic power remains robust to controlling for the winner family's traditional status.

To further reinforce our results, we conduct a formal continuity-based analysis for pre-determined candidate characteristics, as is the standard practice in close elections RD designs. The outcome variable is a demographic or political characteristic of the winning candidate during the period 2002 to 2013. Here, we consider several possibly pre-determined characteristics picked up by separate indicators for whether or not a candidate is affiliated with: a religious shrine, historically-influential family, or business. The final two outcomes are the number of past elections won or contested. Our sample compares union councils located in constituencies where a dynast narrowly won over union councils in constituencies where a dynast narrowly lost. Results for this exercise are reported in Table 13. Consistent with the evidence furnished above, we do not find evidence of a significant discontinuity in any of the above five candidate characteristics. This is indicated by high p-values and the inclusion of zero in confidence intervals.

Another empirical exercise consists of estimating the influence of family profile on luminosity growth irrespective of whether the legislator is a dynast or not. We can then compare

these results with our baseline model where the explanatory variable is a dynastic legislator.[30] As the results in Table 14 show, family profile does not appear as a powerful predictor of development outcomes. Thus, the coefficients of the family profile variables are statistically insignificant in all specifications. The same conclusion is reached for the asset index and also for educational attendance as can be seen in Table 15. Finally, the effect on road density is highly significant whichever way family type is defined, and the size of the effect is particularly large for religious families. The latter result is broadly in line with the effects found for entrenched dynasts in the sense that the impact on road density is generally positive, even though the coefficient may be statistically insignificant. We have explained earlier why the impact on road density differs from the impact on other development outcomes.

To sum up, although there is a significant correlation between dynasticism and family background, the two effects are not completely replaceable or substitutable. Accounting for the winner's family status does not cancel out the effect of dynasticism. In general, the effect of entrenched political families that make up our dynastic measure is stronger and more consistent than the effect of traditional families alone. The emphasis put by social scientists on family background characteristics of dynastic legislators is not misplaced, yet it conceals the even more important role played by entrenched dynasticism. This conclusion is actually suggested by the presence of shrine and historic families among the non-dynastic category. The following question then arises: are members of these families to be considered as willing or would-be dynasts who do not adopt anti-development strategies as long as their political power has not become sufficiently entrenched, or are they leaders who are not on the trajectory to becoming dynasts?

To answer that question, we look at the political histories of non-dynastic families with a view to assessing whether they have recently won a series of consecutive tenures. If this is the case, we can presume that these families are on their way to becoming entrenched dynasties in the near or proximate future: in other words, they are would-be dynasts. If, on the other hand, election victories are sparse or are rather frequent but scattered, we draw the opposite

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[30] It would be useful to investigate if the effect of dynasticism on development differs according to whether the dynast belongs to the shrine gentry or the larger historic category. This would entail carrying out a heterogeneity analysis that would apply our original close elections RD approach to subsamples differentiated according to the family background of the close winner. Unfortunately, such an attempt proved unsuccessful. The problem comes from the fact that there are very few constituencies that are classified as "traditional" or "non-traditional" where we have the dynast and the non-dynast holding the top two positions.[30] We therefore lack power and no sensible results can be obtained.

conclusion. Once would-be dynasts are identified, we check whether they tend to belong to traditional elite families.

What we find is that very few of the families with recent consecutive wins are traditional. Furthermore, majority of non-dynasts do not meet our definition of willing dynasts. This is true even when we loosen the definition, for example by defining as willing dynasts not only families with three consecutive wins during the last three elections but also those with three consecutive wins during the last four elections, and even those with three wins during the last four elections, whether consecutive or not (results not shown). These observations suggest that traditional families dominating politics in Punjab have occupied the centre stage since quite some time. Few political dynasties are on the making, especially if attention is limited to families belonging to the traditional elite.

Because most non-dynastic traditional families involved in politics do not appear to be on track to reach entrenched power, we may infer that the vertical organization at their command is not strong enough for the purpose, or their representatives lack leadership qualities and other skills required to make it an effective political machine. Conversely, in order to become entrenched dynasties and produce adverse effects on local development, representatives of traditional elite families must wield effective control of a hierarchical patronage organization strong enough to win over political competitors. It is in this sense that the conjunction of entrenched dynasticism and traditional family background retards development. Finally, the fact that not many families with relatively low numbers of electoral wins seem to be on their way to become political dynasties suggests that they are exposed to intense competition. We will exploit this finding in our tentative, indirect test of Acemoglu-Robinson's political theory of economic backwardness, to which we now turn our attention.

DIRECTLY MEASURING THE EFFECT OF COMPETITION

In order to assess the effect of competition, we can compare the developmental effect of winning dynasts who won an election by a close margin to the effect attributable to dynasts who won by a comfortable margin. It bears emphasis that by expanding the margin of victory we are effectively departing from the close elections setup. Thus, we cannot claim causality and, strictly speaking, the results should be interpreted as correlations. As seen from Table 16, the size of the (absolute) value of the coefficient measuring the impact of entrenched dynastic power on variations in night lights continuously decreases: from -0.164 for the optimal MSE, to -0.127 for a 20% bandwidth, -0.084 for a 30% bandwidth, -0.061 for a 40% bandwidth, and

-0.049 for a 50% bandwidth. This seems to support Acemoglu-Robinson's political theory of economic backwardness, according to which dynasts should be less inclined to adopt anti-development strategies when they are more assured of their power. In the present exercise, this assurance is proxied by the margin of victory over the runner-up in the elections.

To have a complete picture of the way our results match the predictions of A-R's theory, we must add that the situation of non-dynastic close winners plausibly corresponds to the situation of intense competition depicted by its authors. In line with their predictions, the impact of this category of winners on local development is positive. Table 17 summarizes our results when they are thus situated in the framework of A-R's theory, thus proposing a tentative test of the same.

Table 17: Comparing our results to the predictions of Acemoglu-Robinson's political theory of economic backwardness

Situations defined by Acemoglu-Robinson	Situations defined in this paper	Outcome: predictions of A-R	Outcome: our findings
Intense competition	Non-dynastic close winners	Pro-development	Pro-development (relatively)
Semi-entrenched elite	(Entrenched) dynastic close winners	Anti-development	Anti-development (relatively)
Power monopoly	Winners by a wide margin	Pro-development	Weakly anti-development

Finally, analogously with what we have done before for non-dynasts, we can approach the problem of political competition by going through the individual political histories of (entrenched) dynastic families. The idea is to figure out whether they are characterized by more or less consecutive election wins. Using the dynastic family as the unit of observation, we find that the correlation coefficient between the average number of consecutive tenures and the total number of tenures is 0.39 while the correlation coefficient between the maximum number of consecutive tenures and the total number of tenures is as high as 0.59.[31] Moreover, it is interesting to note that when a series of consecutive wins is not observed, the breaks, whether due to losing an election or not participating in it (unfortunately, we cannot always distinguish between the two), are rather few and always spread out (results not shown). As this evidence

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[31] Thus, if a family has won 3 consecutive tenures followed by 2 electoral defeats, themselves followed by 5 consecutive wins, the average number of consecutive wins is 4, and the maximum of consecutive wins is 5.

strongly suggests, entrenched dynasties are families that have not only been long established in Punjab's politics, but also almost continuously active. Such conclusion, even if put in the context of close elections outcomes, tends to support the hypothesis underpinning our indirect test of A-R's theory: because entrenched dynastic families benefit from considerable advantages derived from a long and persisting presence on the political stage, they are better considered as falling in an intermediate situation between power monopoly and full-fledged competition, i.e., what A-R describe as "semi-entrenched" dynasticism.

8. Conclusion

When legislators are distinguished on the basis of the longevity of the period during which their family has been in power, dynasts appear to have a significantly worse local development impact than non-dynasts. This conclusion also holds when the effect of entrenched personal power, which measures the incumbency advantage of the individual election winners, is controlled for. Yet, it does not hold any more when the dynastic politician has won an election comfortably rather than by a close margin. Moreover, an overwhelming majority of entrenched dynasts come from historic big landlord families, including religious families headed by Sufi masters who guard local shrines, and many of them have had a continuous, or almost continuous presence in Punjab's politics. The question then naturally arises as to whether bad development outcomes are to be attributed to the intrinsic characteristics of these old families rather than to their dynastic presence on the political scene. This interpretation is strongly suggested by the social science literature dealing with micro-level political realities in Pakistan, and in the Punjab province in particular. However, when the family profile of the dynasts and the non-dynasts is controlled for, the effect of dynastic power unambiguously persists. Dynasticism thus seems to have adverse effects on development regardless of the family characteristics of the legislators.

To account for these different findings, we must bear in mind that the political context is one of competitive clientelism and two main types of clientelistic ties schematically prevail. One type, reactionary, is based on a vertical patronage organization in which the clients' physical and economic security is highly dependent upon the economic power of their political patrons. In the other, more progressive type, the relatively horizontal ties of extended families or clans dominate and the role of the patrons consists more of enhancing, rather than protecting, the livelihoods of the clients. With the help of the political theory of economic backwardness of Acemoglu and Robinson (2006b), we attempt to build up an interpretative story that fits both

the socio-anthropological literature and our own results. In conditions where members of entrenched dynastic families win comfortable victories, presumably reflecting conditions in which their political power is well assured, they do not adopt anti-development strategies. By contrast, when their victories are close and they do not feel as secure in their holding of power, they deliberately seek to block development-promoting initiatives. Practically, in conditions where, albeit entrenched, they are exposed to serious political competition, they tend to mobilize their vertical, rent-extracting patronage organization with a view to undermining challenges to their economic and political power. This interpretation, it must be stressed, is not equivalent to the usual account of the negative effects of dynastic power, such as found in George (2019): rather than relaxing their efforts, (descendant) dynasts redirect them toward socially harmful tasks.

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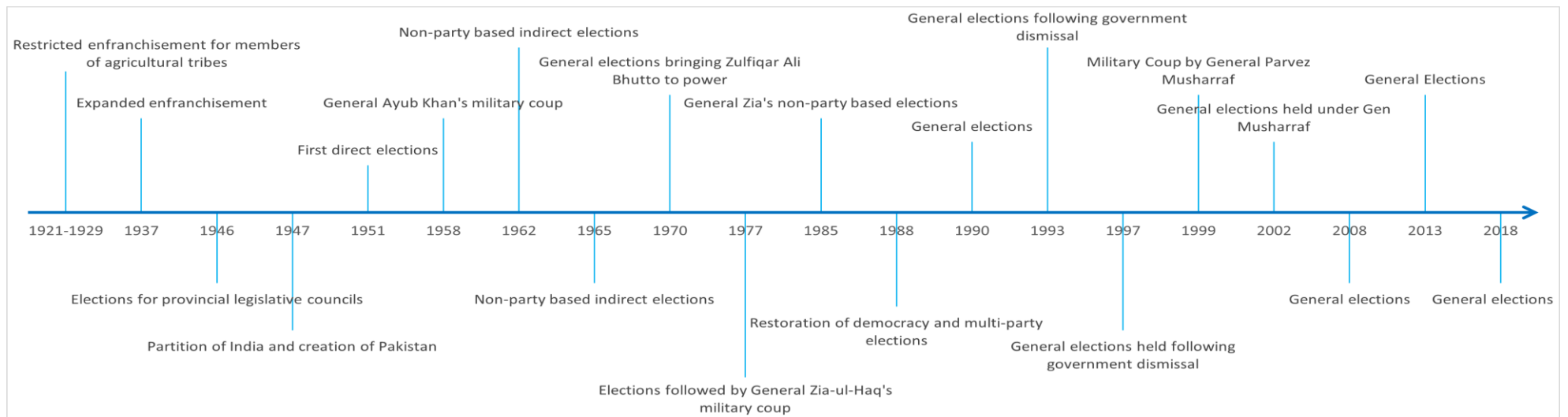
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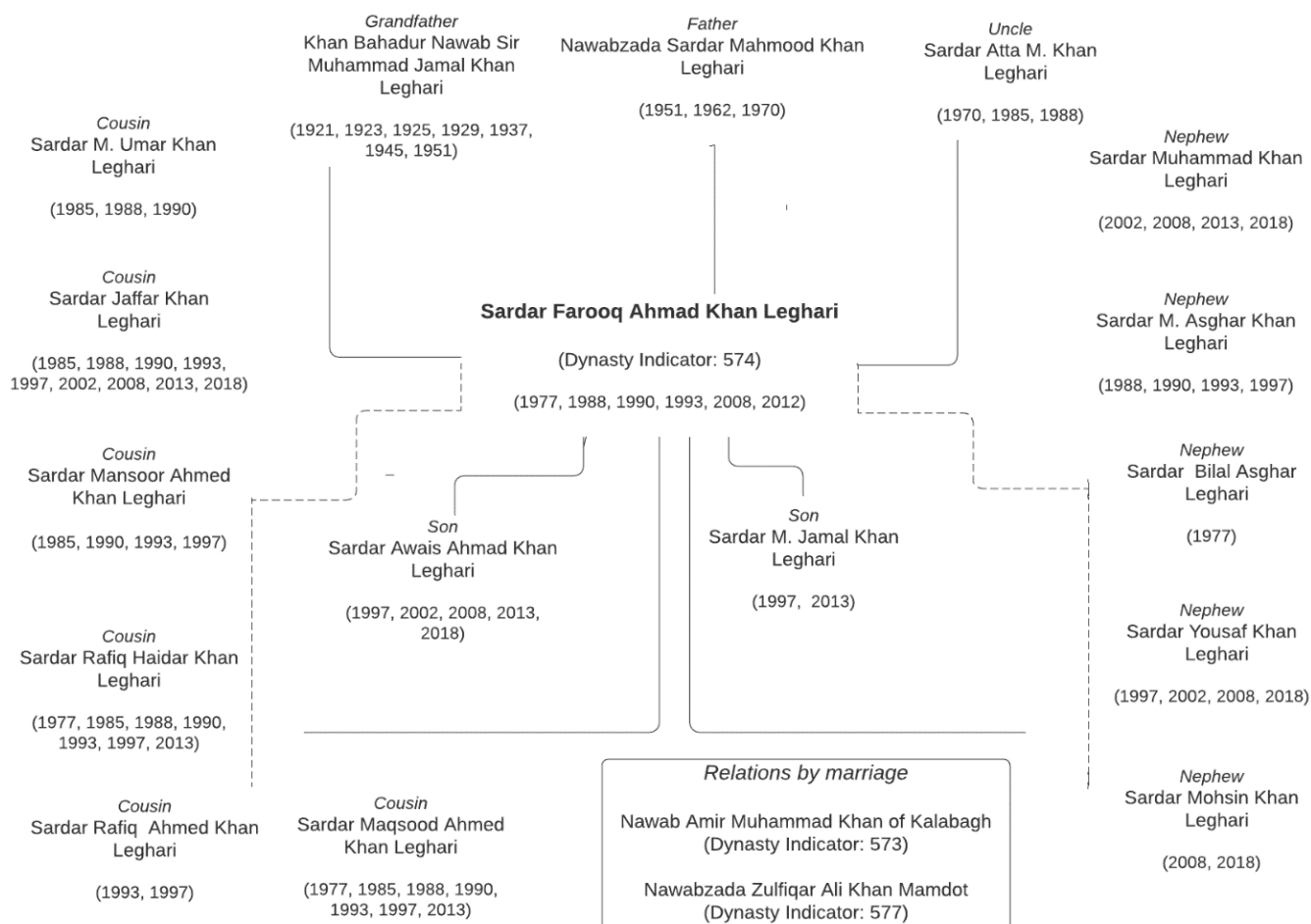
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Figure 1: A timeline of elections, 1921-2018

Figure 2: Dynastic profile of the Legharis of Dera Ghazi Khan

Grandfather
Khan Bahadur Nawab Sir
Muhammad Jamal Khan
Leghari

(1921, 1923, 1925, 1929, 1937,
1945, 1951)

Father
Nawabzada Sardar Mahmood Khan
Leghari

(1951, 1962, 1970)

Uncle
Sardar Atta M. Khan
Leghari

(1970, 1985, 1988)

Cousin
Sardar M. Umar Khan
Leghari

(1985, 1988, 1990)

Nephew
Sardar Muhammad Khan
Leghari

(2002, 2008, 2013, 2018)

Cousin
Sardar Jaffar Khan
Leghari

(1985, 1988, 1990, 1993,
1997, 2002, 2008, 2013, 2018)

Sardar Farooq Ahmad Khan Leghari

(Dynasty Indicator: 574)

(1977, 1988, 1990, 1993, 2008, 2012)

Nephew
Sardar M. Asghar Khan
Leghari

(1988, 1990, 1993, 1997)

Cousin
Sardar Mansoor Ahmed
Khan Leghari

(1985, 1990, 1993, 1997)

Son
Sardar Awais Ahmad Khan
Leghari

(1997, 2002, 2008, 2013,
2018)

Son
Sardar M. Jamal Khan
Leghari

(1997, 2013)

Nephew
Sardar Bilal Asghar
Leghari

(1977)

Cousin
Sardar Rafiq Haidar Khan
Leghari

(1977, 1985, 1988, 1990,
1993, 1997, 2013)

Nephew
Sardar Yousaf Khan
Leghari

(1997, 2002, 2008, 2018)

Cousin
Sardar Rafiq Ahmed Khan
Leghari

(1993, 1997)

Cousin
Sardar Maqsood Ahmed
Khan Leghari

(1977, 1985, 1988, 1990,
1993, 1997, 2013)

Relations by marriage

Nawab Amir Muhammad Khan of Kalabagh
(Dynasty Indicator: 573)

Nawabzada Zulfiqar Ali Khan Mamdot
(Dynasty Indicator: 577)

Nephew
Sardar Mohsin Khan
Leghari

(2008, 2018)

Figure 3: Density of the forcing variable, dynastic vote margin
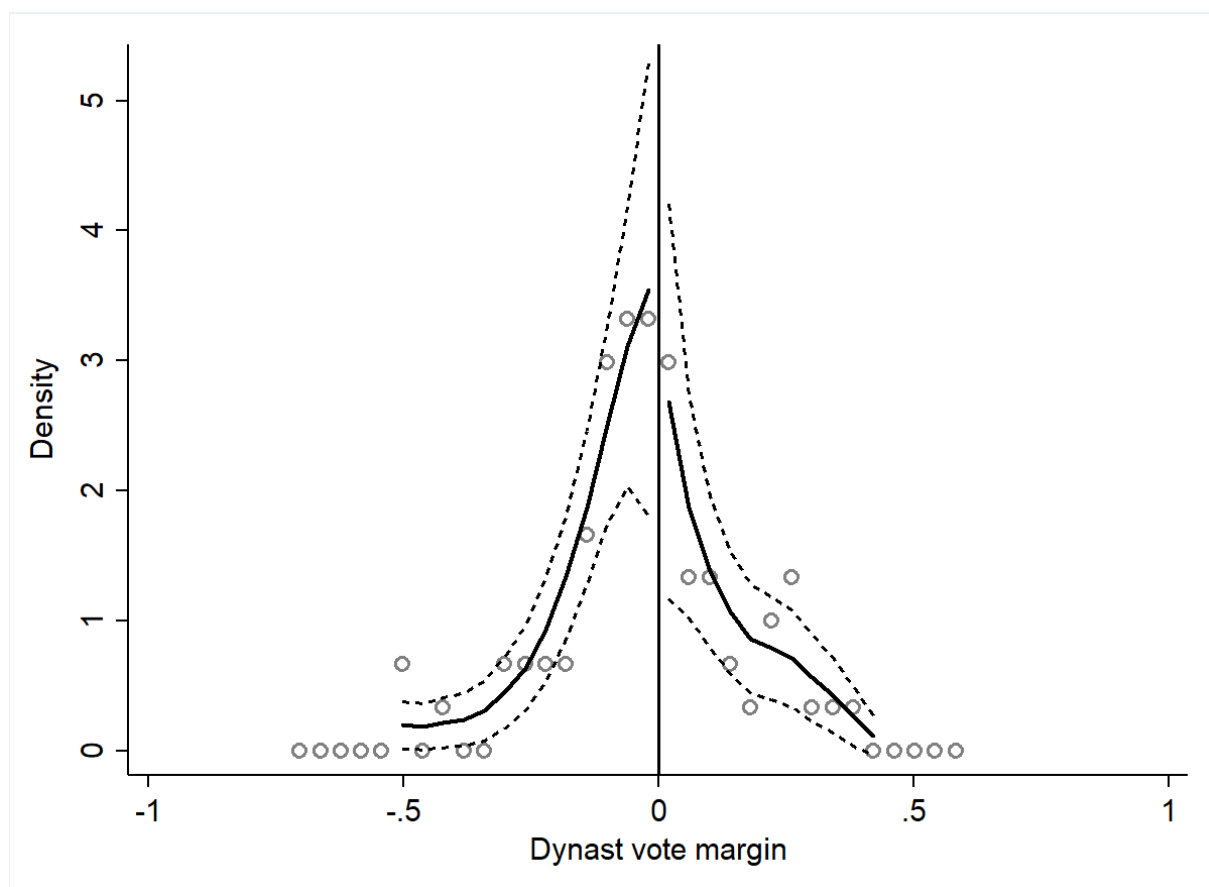
Figure 4: Luminosity growth and dynastic vote margin
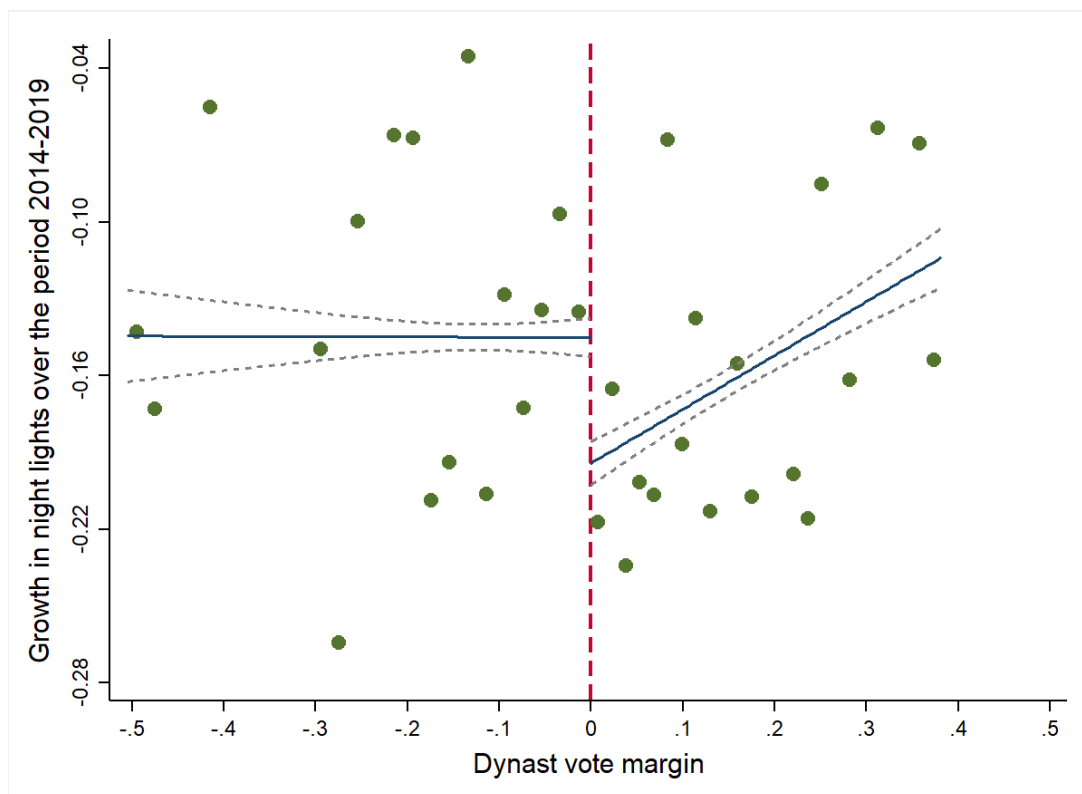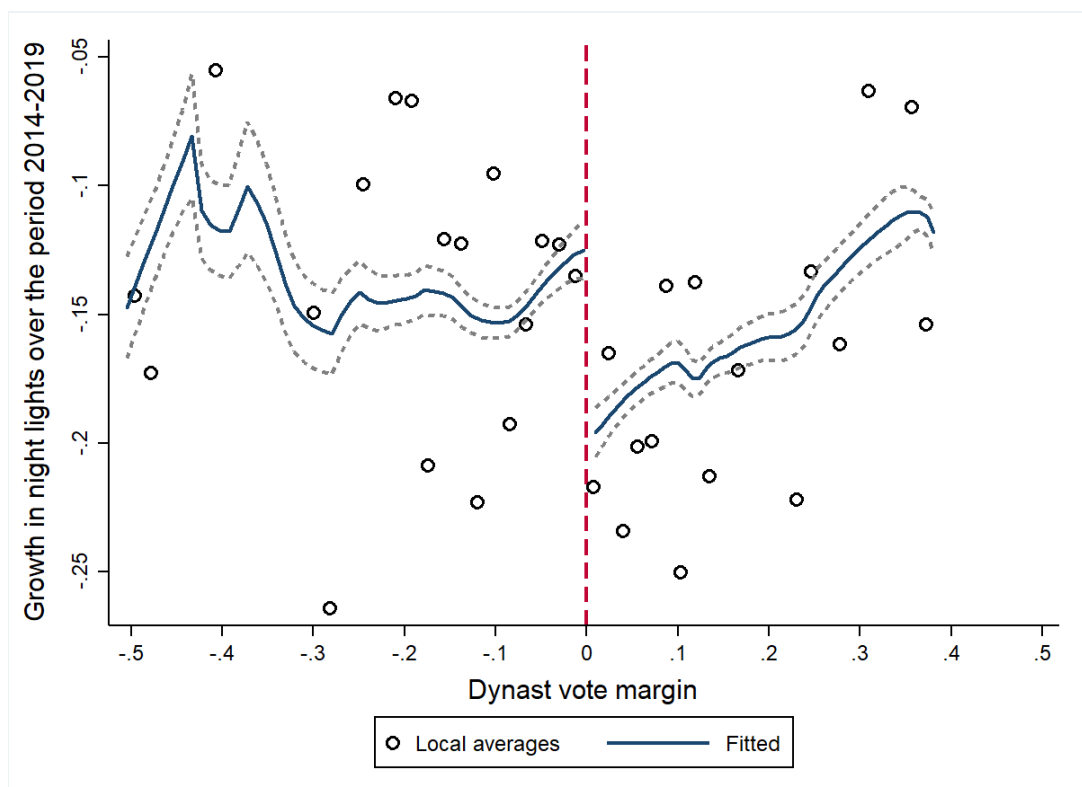
Panel (a)

Panel (b)

Figure 5: Proportion of households that never attended school and dynastic vote margin
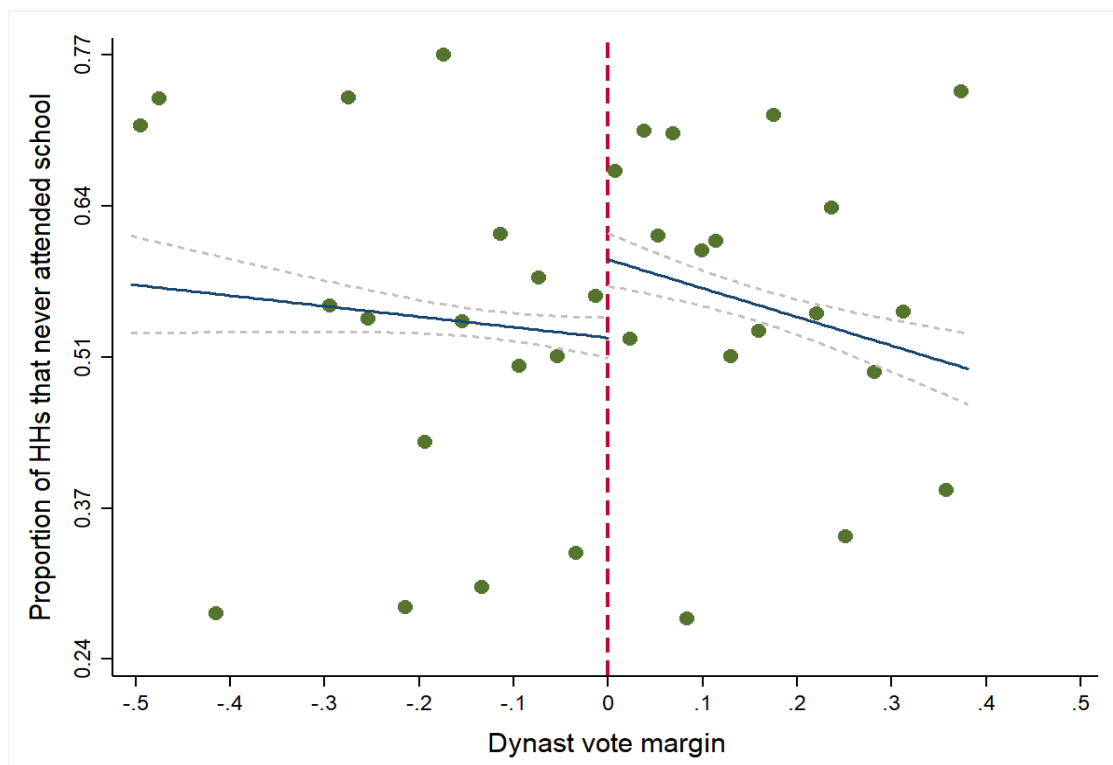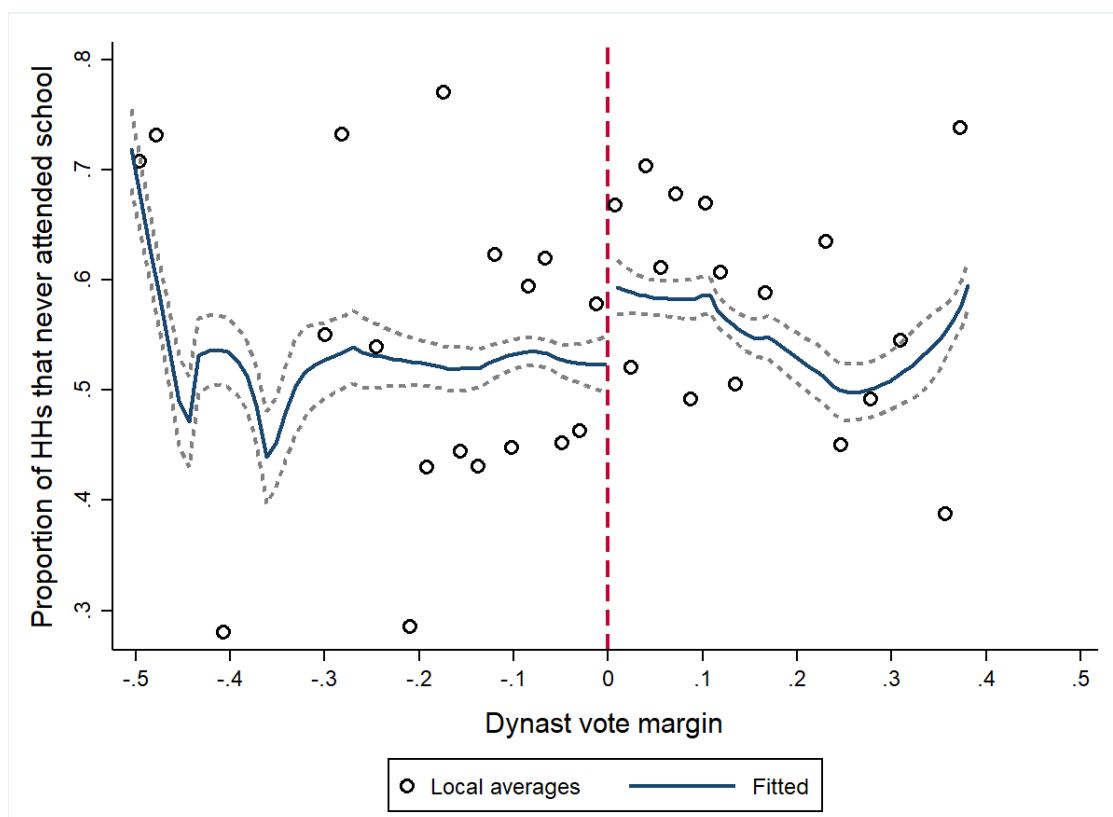
Panel (a)

Panel (b)

Figure 6: Household-level asset ownership index and dynastic vote margin
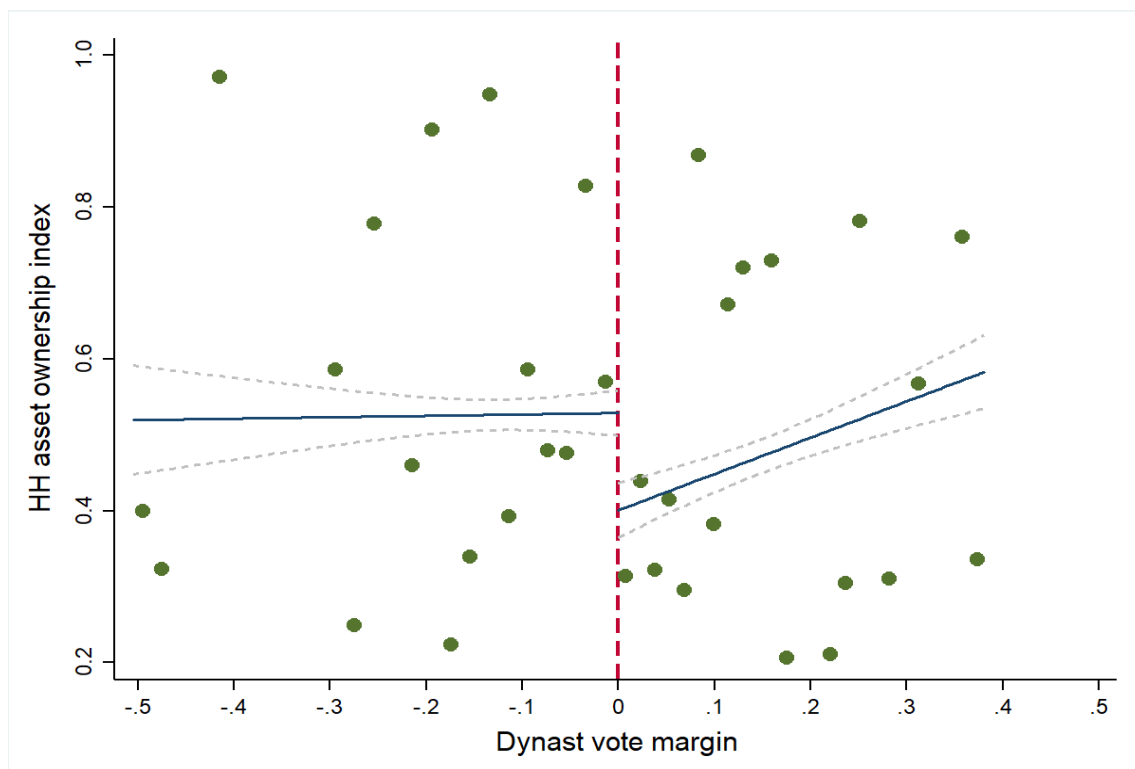
Panel (a)

Panel (b)
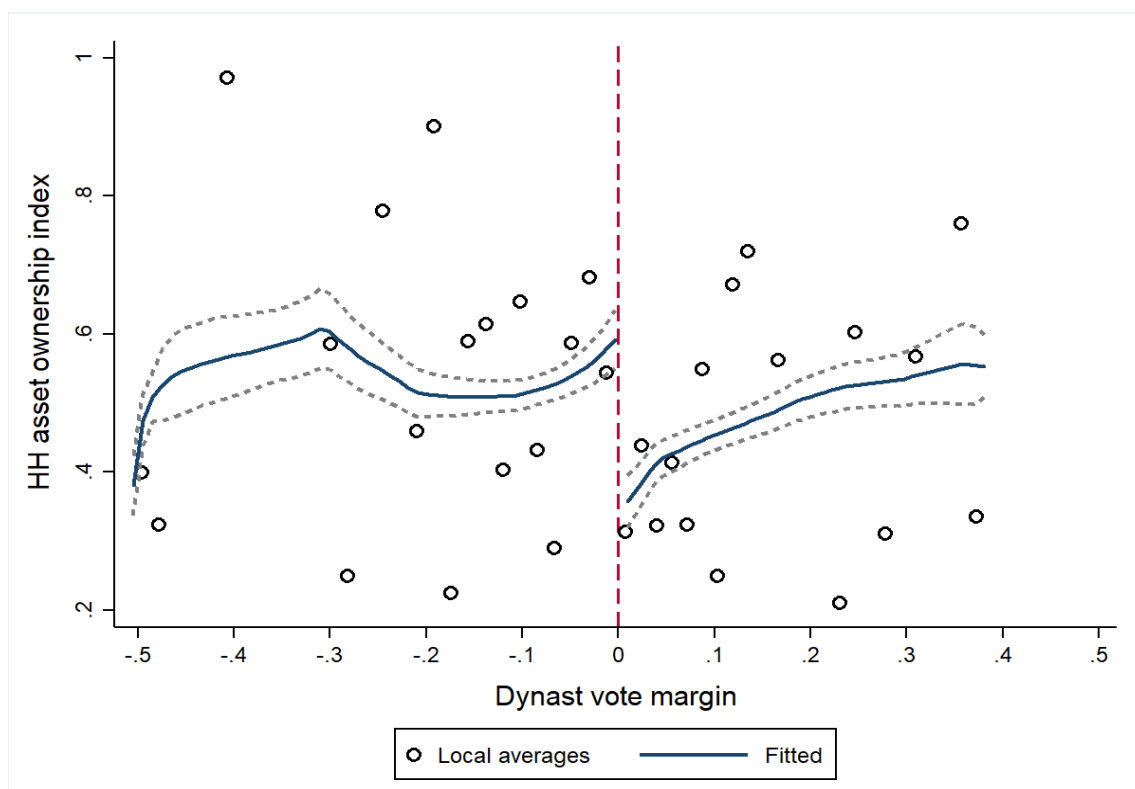
Appendix Table A1: Snapshot of the dynastic data, Attock district

Candidate	Relation	Name of the relative	Constituency	Year
Sardar Shaukat Hayat	son	Sardar Sikandar Hayat Khan	elected/PP-15	1988
	son	Sardar Sikandar Hayat Khan	elected/PP-15	1993
	son	Sardar Sikandar Hayat Khan	contested/PP-15	1997
M.Aslam Malik	son	Malik Amin Aslam Khan	elected/NA-57	2002
	son	Malik Amin Aslam Khan	contested/NA-57	2008
	son	Malik Amin Aslam Khan	contested/NA-57	2013
Pir Syed Safiuddin	son	Pir Syed Abbas Mohyuddin Gillani	elected/PP-14	1993
	son	Pir Syed Abbas Mohyuddin Gillani	contested/PP-14	1997
	son	Pir Syed Abbas Mohyuddin Gillani	elected/PP-19	2002
Malik Allahyar	son	Malik Aitbar Khan	elected/PP-19	2008
	son	Malik Aitbar Khan	elected/NA-58	2013
Fateh Khan	nephew	Shair Ali Khan	elected/PP-17	2008
	nephew	Shair Ali Khan	elected/PP-18	2013
	nephew	Malik Atta Muhammad Khan	contested/PP-15	1988
Taj M.Khan Khanzada	nephew	Col ® Shuja Khanzada	elected/PP-16	2002
	nephew	Col ® Shuja Khanzada	elected/PP-16	2008
	nephew	Col ® Shuja Khanzada	elected/PP-16	2013
Amir M.Khan	cousin	Malik Muhammad Anwar	elected/PP-18	2002
	cousin	Malik Muhammad Anwar	contested/PP-18	2008
	cousin	Malik Muhammad Anwar	contested/PP-18	2013
Malik Lal Khan	son	Malik Sohail Khan	contested/NA-58	2002
	son	Malik Sohail Khan	contested/NA-58	2008
	son	Malik Sohail Khan	contested/NA-58	2013

Table 1. Reporting average differences between dynasts and non-dynasts

Variable Name (1)	Sample Mean (2)	Dynast vs Non-Dynast (3)
Panel A: Contemporary Development Outcomes		
Growth in night lights during the electoral cycle	-0.018	-0.029***
		(0.009)
Proportion of HHs with no children currently attending school	0.208	0.035***
		(0.008)
Proportion of HHs that own a television	0.273	-0.037***
		(0.012)
Proportion of HHs that own a refridgerator	0.114	-0.034***
		(0.007)
Proportion of HHs that own a washing machine	0.184	-0.043***
		(0.011)
Proportion of HHs that own a car	0.010	-0.003***
		(0.001)
Proportion of HHs that own a tractor	0.014	-0.004**
		(0.001)
HH asset ownership index	0.504	-0.054***
		(0.016)
Panel B: Pre-determined union council characteristics		
Log(distance to the nearest city)	9.55	0.022
		(0.099)
Log(distance to the border)	2585.670	-1481.95***
		(595.58)
Railroads density in 1992	0.174	-0.050***
		(0.013)
Waterway density in 1992	0.616	-0.003
		(0.014)
Growth in night lights [1992-1999]	0.588	0.012
		(0.048)

Notes: This table presents summary statistics on development outcomes and pre-determined covariates used in our empirical analysis. The pre-determined covariates are measured several years before the earliest election year in our dataset. We restrict the sample to union councils where the top two candidates are a dynast and a non-dynast. Column (2) reports the sample mean of each variable and Column (3) reports the difference in means of each variable between the dynast and non-dynast groups. Standard errors are reported in parentheses. ***$p < 0.01$; **$p < 0.05$; *$p < 0.1$

Table 2. Formal continuity-based analysis for pre-determined UC characteristics

Variable	CERRD-Optimal Bandwidth	RD Estimator	Robust Inference		Eff. Number of Observations
			p-value	Conf. Int.	
	(1)	(2)	(3)	(4)	(5)
log(distance to the nearest city)	0.090	0.228	0.596	[-0.5155, 0.8976]	1641
log(distance to the border)	0.074	0.094	0.758	[-0.6021, 0.8263]	1340
railroads density in 1992	0.098	-0.009	0.369	[-0.0345, 0.0128]	1776
waterway density in 1992	0.076	0.043	0.309	[-0.0376, 0.1187]	1373
night lights growth 1992-2002	0.079	0.127	0.506	[-0.2035, 0.4127]	1396
personal power index	0.076	-2.894	0.283	[-7.8943, 2.3063]	1377

Notes: All outcomes are measured prior to the earliest election in our dataset (i.e. 2002) and can therefore be considered as pre-determined. For each outcome variable, the specifications provide 'conventional' estimates using the RD Robust Package in STATA. Bandwidths were selected using the CERRD-Optimal option of the RD Robust Package in STATA. The procedure for selecting the optimal bandwidth is as suggested in Calonico et al. (2018). Standard errors, clustered at the subdistrict level, are reported in parentheses. ***$p < 0.01$; **$p < 0.05$; *$p < 0.1$

Table 3. Tests for discontinuity in the running variable at the threshold

	McCrary	CJM
	(1)	(2)
T-stat	-1.12	0.37
p-value	0.28	0.71

Notes: The 'McCrary' column reports the results of the McCrary (2008) manipulation test; the 'CJM' column reports results of the Cattaneo et al. (2017) test. Both procedures test the null hypothesis of a discontinuity in the distribution of the running variable (dynastic margin) at the cutoff.

Table 4. Effect of dynastic power on growth in night time luminosity

	Depvar: union council level night lights growth			
	(1)	(2)	(3)	(4)
Dynastic legislator	-0.16839*	-0.18272***	-0.28466***	-0.16409**
	(0.13749)	(0.13697)	(0.13981)	(0.07868)
N	3515	3515	3515	3515
RD bandwidth	7%	5%	3%	MSE-Optimal
Specification	Local linear	Local linear	Local linear	Local linear

Notes: The table estimates the specification $Y_i = \alpha + \beta Dynast\ win_i + f(Dynast\ margin_i) + \gamma X_i + \varepsilon_{it}$. The outcome variable Y_i is growth in night time luminosity during the electoral term in which a candidate is elected (eg. between 2008 and 2013 for a candidate elected in 2008 for a 5 year term). The sample compares union councils located in constituencies where a dynast narrowly won to union councils in constituencies where a dynast narrowly lost. We report conventional estimates using the RD Robust Package in STATA. In Columns (1) to (3) we impose bandwidths of 7%, 5% and 3%, respectively. Column (4) imposes a bandwidth that was selected using the MSE-Optimal option of the RD Robust Package in STATA. All specifications include the following pre-determined covariates as controls: log(distance to the nearest city), log(distance to the border), railroads density in 1992, waterway density in 1992 and night lights growth in the period 1992-1999. Standard errors, clustered at the constituency level, are reported in parentheses. ***p < 0.01; **p < 0.05; *p < 0.1

Table 5. Effect of dynastic power on other outcomes

	No children currently atte	Asset Index	Log (Road Density)
	(1)	(2)	(3)
Dynastic legislator	0.11381**	-0.21169**	-0.523
	(0.06468)	(0.11355)	(1.1181)
N	1402	1402	1402
RD bandwidth	MSE-Optimal	MSE-Optimal	MSE-Optimal
Specification	Local linear	Local linear	Local linear

Notes: The table estimates the specification $Y_i = \alpha + \beta Dynast\ win_i + f(Dynast\ margin_i) + \gamma X_i + \varepsilon_{it}$. The outcome variables Y_i are different contemporary outcomes measured at a single point in time (i.e. 2013). The sample compares union councils located in constituencies where a dynast narrowly won to union councils in constituencies where a dynast narrowly lost. We report conventional estimates using the RD Robust Package in STATA. All columns impose a bandwidth that was selected using the MSE-Optimal option of the RD Robust Package in STATA. All specifications include the following pre-determined covariates as controls: log(distance to the nearest city), log(distance to the border), railroads density in 1992, waterway density in 1992 and night lights growth in the period 1992-1999. Standard errors, clustered at the constituency level, are reported in parentheses. ***p < 0.01; **p < 0.05; *p < 0.1

Table 6. Impact of dynastic power on night lights after controlling for the winning candidate's characteristics

	Depvar: union council level night lights growth							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dynastic legislator	-0.16839*	-0.17521*	-0.18272***	-0.18867***	-0.28466***	-0.27653***	-0.16409**	-0.17938**
	(0.13749)	(0.12267)	(0.13697)	(0.1062)	(0.13981)	(0.07394)	(0.07868)	(0.08325)
Candidate controls	N	Y	N	Y	N	Y	N	Y
N	3515	3515	3515	3515	3515	3515	3515	3515
RD bandwidth	7%	7%	5%	5%	3%	3%	MSE-Optimal	MSE-Optimal
Specification	Local linear	Local linear	Local linear	Local linear	Local linear	Local linear	Local linear	Local linear

Notes: The table estimates the specification $Y_i = \alpha + \beta$Dynast win i + f (Dynast margin i) + γX_i + ε_{it}. The outcome variable Y_i is growth in night time luminosity during the electoral term in which a candidate in elected (eg. between 2008 and 2013 for a candidate elected in 2008 for a 5 year term). The sample compares union councils located in constituencies where a dynast narrowly won to union councils in constituencies where a dynast narrowly lost. We report conventional estimates using the RD Robust Package in STATA. Columns (1) to (2) impose a bandwidth of 7%. Columns (3) to (4) impose a bandwidth of 5%. Columns (5) to (6) impose a bandwidth of 3%. Columns (7) to (8) impose a bandwidth that was selected using the MSE-Optimal option of the RD Robust Package in STATA. The inclusion and exclusion of candidate controls is represented by 'Y' and 'N', respectively. The candidate controls include the following pre-determined characteristics of the winning candidate: indicator for shrine elite, indicator for historic elite, indicator for business, no. of past elections won, no. of past elections contested and **an index for personal hold over power**. All specifications include the following pre-determined UC covariates as controls: log(distance to the nearest city), log(distance to the border), railroads density in 1992, waterway density in 1992 and night lights growth in the period 1992-1999. Standard errors, clustered at the constituency level, are reported in parentheses. ***$p < 0.01$; **$p < 0.05$; *$p < 0.1$

Table 7. Effect on development after changing the definition of 'Dynast'

	Night Lights Growth		Asset Index	
	(1)	(2)	(3)	(4)
Dynastic legislator	-0.16409**	-0.03618	-0.21169**	-0.02566
	(0.07868)	(0.05702)	(0.11355)	(0.10176)
Alternative Definition	tenures >=11	tenures >=7	tenures >=11	tenures >=7
RD bandwidth	MSE-Optimal	MSE-Optimal	MSE-Optimal	MSE-Optimal
Specification	Local linear	Local linear	Local linear	Local linear

Notes: The table estimates the specification $Y_i = \alpha + \beta$Dynast win i + f (Dynast margin i) + γX_i + ε_{it}. The outcome variable Y_i is either growth in night time luminosity during the electoral term in which a candidate is elected or a household level asset ownership index measured at a single point in time (i.e. 2013). The sample compares union councils located in constituencies where a dynast narrowly won to union councils in constituencies where a dynast narrowly lost. We report conventional estimates using the RD Robust Package in STATA. All columns impose a bandwidth that was selected using the MSE-Optimal option of the RD Robust Package in STATA. All specifications include the following pre-determined covariates as controls: log(distance to the nearest city), log(distance to the border), railroads density in 1992, waterway density in 1992 and night lights growth in the period 1992-1999. Standard errors, clustered at the constituency level, are reported in parentheses. ***$p < 0.01$; **$p < 0.05$; *$p < 0.1$

Table 8. Continuity-based analysis for alternative cutoffs

Alternative Cutoff	MSE-Optimal Bandwidth	RD Estimator	Robust Inference		Effective N. of Obs.	
			p-value	Conf. Int.	Left	Right
	(1)	(2)	(3)	(4)	(5)	(6)
-3	0.052	-0.127	0.415	[-0.3786, 0.1562]	333	297
-2	0.039	-0.160	0.445	[-0.1940, 0.0851]	174	355
0	0.109	-0.164	0.018	[-0.3405, -0.0321]	1102	770
+2	0.037	-0.120	0.776	[-0.2593, 0.1936]	311	276
+3	0.037	-0.155	0.120	[-0.2681, 0.0308]	294	398

Notes: This table tests for the 'dynastic effect' at artificial or placebo cutoff values. We report conventional estimates using the RD Robust Package in STATA. The first two rows implement our baseline specification using a placebo cutoff that is below the actual cutoff of 0. The final two rows use a placebo cutoff that is above 0. The third row reproduces numbers associated with our baseline specification. Bandwidths were selected using the MSE-Optimal option of the RD Robust Package in STATA. All specifications include the following pre-determined covariates as controls: log(distance to the nearest city), log(distance to the border), railroads density in 1992, waterway density in 1992 and night lights growth in the period 1992-1999. Standard errors, clustered at the constituency level, are reported in parentheses. ***$p < 0.01$; **$p < 0.05$; *$p < 0.1$

Table 9. Continuity-based analysis for the donut-hole approach

Donut-Hole Radius	MSE-Optimal Bandwidth	RD Estimator	Robust Inference		Effective N. of Obs.	Excluded Obs.	
			p-value	Conf. Int.		Left	Right
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
0.00	0.109	-0.164	0.018	[-0.3405, -0.0321]	1872	0	0
0.20	0.109	-0.161	0.025	[-0.3421, -0.0231]	1865	0	7
0.25	0.140	-0.118	0.031	[-0.2626, -0.0126]	2268	32	0

Notes : This table tests for the sensitivity of the 'dynastic effect' to observations that are very close to the cutoff. We report conventional estimates using the RD Robust Package in STATA. The last two rows of the table implement our baseline specification after excluding observations closest to the cutoff that are most vulnerable to manipulation. Bandwidths were selected using the MSE-Optimal option. All specifications include the following pre-determined covariates as controls: log(distance to the nearest city), log(distance to the border), railroads density in 1992, waterway density in 1992 and night lights growth in the period 1992-1999. Standard errors, clustered at the constituency level, are reported in parentheses. ***$p < 0.01$; **$p < 0.05$; *$p < 0.1$

Table 10. Reporting average differences between dynasts and non-dynasts

Variable Name (1)	Sample Mean (2)	Dynast vs Non-Dynast (3)
Panel A: Factors influencing voting decisions		
Voting decision based on assistance with police and courts	0.048	0.051***
		(0.012)
Voting decision based on opinion of tribal chiefs	0.405	0.170***
		(0.027)
Voting decision based on threats or bullying	0.020	0.008
		(0.008)
Voting decision based on past development projects	0.515	-0.069***
		(0.028)
Voting decision based on any other prior projects	0.122	-0.046***
		(0.018)
Panel B: Trust in institutions		
Very little to no trust in parliament	0.654	0.037*
		(0.026)
Very little to no trust in district court	0.624	0.075***
		(0.027)
Very little to no trust in high court	0.535	0.096***
		(0.028)
Very little to no trust in supreme court	0.495	0.151***
		(0.028)
Very little to no trust in federal government	0.630	0.073***
		(0.027)
Very little to no trust in provincial government	0.590	0.058**
		(0.027)
Very little to no trust in local government	0.603	0.046**
Panel C: Dispute resolution		
Community disputes taken to panchayat for resolution	0.253	0.060***
		(0.024)
Personal disputes taken to panchayat for resolution	0.362	0.130***
		(0.027)

Notes: This table presents summary statistics on a series of outcomes that proxy for livelihood preserving services. The data comes from a contemporary survey that collects information on the socio-political profile of national assembly constituencies. The survey was conducted by the Free and Fair Election Network of Pakistan. Column (2) reports the sample mean of each variable and Column (3) reports the difference in means of each variable between the dynast and non-dynast groups. The dynast group consists of all those households that fall in constituencies where more than half of the candidates elected to the national assembly between 2002 and 2013 are dynasts. Conversely, the non-dynast group consists of all those households that fall in constituencies where less than half of the candidates elected to the national assembly between 2002 and 2013 are dynasts. Standard errors are reported in parentheses. ***$p < 0.01$; **$p < 0.05$; *$p < 0.1$

Table 11: Distribution of dynasts according to 'status' and 'occupation'

	National Assembly		Provincial Assembly		Total	
	Tenures ≥ 11	Tenures ≥ 13	Tenures ≥ 11	Tenures ≥ 13	Tenures ≥ 11	Tenures ≥ 13
Status-based categories						
zamindar	0.856	0.930	0.915	0.943	0.885	0.937
historic	0.658	0.907	0.688	0.852	0.672	0.879
shrine	0.329	0.419	0.326	0.386	0.328	0.402
Occupational categories						
Agriculture	0.863	0.860	0.879	0.886	0.871	0.874
Business	0.089	0.070	0.057	0.045	0.073	0.057
Lawyer	0.000	0.000	0.007	0.000	0.003	0.000
Religion	0.000	0.000	0.000	0.000	0.000	0.000
Military	0.000	0.000	0.000	0.000	0.000	0.000
Government	0.000	0.000	0.007	0.000	0.003	0.000

Table 12: Distribution of non-dynasts according to 'status' and 'occupation'

	National Assembly		Provincial Assembly		Total	
	Tenures ≤ 3	Tenures ≤ 5	Tenures ≤ 3	Tenures ≤ 5	Tenures ≤ 3	Tenures ≤ 5
Status-based categories						
zamindar	0.733	0.757	0.728	0.736	0.729	0.742
historic	0.018	0.034	0.010	0.025	0.012	0.027
shrine	0.081	0.110	0.030	0.034	0.043	0.056
Occupational categories						
Agriculture	0.571	0.596	0.604	0.614	0.595	0.609
Business	0.252	0.234	0.242	0.235	0.245	0.235
Lawyer	0.052	0.049	0.051	0.047	0.051	0.048
Religion	0.018	0.021	0.012	0.011	0.014	0.014
Military	0.011	0.009	0.013	0.016	0.012	0.014
Government	0.013	0.015	0.021	0.020	0.019	0.018

Table 13. Formal continuity-based analysis for pre-determined candidate characteristics

| Variable | CERRD-Optimal Bandwidth | RD Estimator | Robust Inference | | Eff. Number of Observations |
			p-value	Conf. Int.	
	(1)	(2)	(3)	(4)	(5)
indicator for shrine elite	0.075	0.040	0.949	[-0.3940, 0.4205]	1361
indicator for historic elite	0.052	0.328	0.207	[-0.1567, 0.7241]	1039
indicator for business	0.068	-0.233	0.118	[-0.6276, 0.0709]	1309
no. of past elections won	0.076	-0.611	0.373	[-1.7931, 0.6718]	1377
no. of past elections contested	0.077	-1.200	0.263	[-3.1480, 0.8510]	1387
personal power index	0.076	-2.894	0.283	[-7.8943, 2.3063]	1377

Notes: The table estimates the specification $Y_i = \alpha + \beta \text{Dynast win}_i + f(\text{Dynast margin}_i) + \gamma X_i + \varepsilon_{it}$. The outcome variable Y_i is a demographic or political characteristic of the winning candidate during the period 2002 to 2013. The sample compares union councils located in constituencies where a dynast narrowly won to union councils in constituencies where a dynast narrowly lost. For each outcome variable, the specifications provide 'conventional' estimates using the RD Robust Package in STATA. Bandwidths were selected using the CERRD-Optimal option of the RD Robust Package in STATA. The procedure for selecting the optimal bandwidth is as suggested in Calonico et al. (2018). Standard errors, clustered at the constituency level, are reported in parentheses. ***$p < 0.01$; **$p < 0.05$; *$p < 0.1$

Table 14. Effects of traditional status and occupation on growth in night time luminosity

| | Depvar: union council level night lights growth | | | |
	(1)	(2)	(3)	(4)
Legislator is [Traditional Elite]	0.04528	0.02017	-0.04122	-0.01181
	(0.09538)	(0.11013)	(0.14057)	(0.05684)
RD bandwidth	7%	5%	3%	MSE-Optimal
Specification	Local linear	Local linear	Local linear	Local linear

Notes: The table estimates the specification $Y_i = \alpha + \beta \text{Legislator is [Traditional] win}_i + f(\text{Legislator [Traditional Elite] margin}_i) + \gamma X_i + \varepsilon_{it}$. The outcome variable Y_i is growth in night time luminosity during the electoral term (eg. between 2008 and 2013 for a candidate elected in 2008 for a 5 year term). The sample compares union councils located in constituencies where a legislator who fits the criteria in the square brackets [...] above narrowly won to union councils in constituencies where such a legislator narrowly lost. We report conventional estimates using the RD Robust Package in STATA. In Columns (1) to (3) we impose bandwidths of 7%, 5% and 3%, respectively. Column (4) imposes a bandwidth that was selected using the MSE-Optimal option of the RD Robust Package in STATA. All specifications include the following pre-determined covariates as controls: Log(distance to the nearest city), population density, proportion houses with piped water, proportion houses with electricity and proportion houses with kerosene fuel. Standard errors, clustered at the subdistrict level, are reported in parentheses. ***$p < 0.01$; **$p < 0.05$; *$p < 0.1$

Table 15. Effects of the winner's family and occupation on other development outcomes

	No children currently attending	Log (Road Density)	Asset Index
	(1)	(2)	(3)
Legislator is [Traditional Elite]	0.00709	2.4226***	0.01387
	(0.018)	(0.27646)	(0.03303)
RD bandwidth	MSE-Optimal	MSE-Optimal	MSE-Optimal
Specification	Local linear	Local linear	Local linear

Notes: The table estimates the specification $Y_i = \alpha + \beta$Legislator [...] win i + f (Legislator [...] margin i) + $\gamma X_i + \varepsilon_{it}$. The outcome variable Y_i is night lights growth during the period 2014 to 2019. The sample compares union councils located in constituencies where a legislator who fits the criteria in the square brackets [...] above narrowly won to union councils in constituencies where such a legislator narrowly lost. We report conventional estimates using the RD Robust Package in STATA. All columns impose a bandwidth that was selected using the MSE-Optimal option of the RD Robust Package in STATA. All specifications include the following pre-determined covariates as controls: Log(distance to the nearest city), population density, proportion houses with piped water, proportion houses with electricity and proportion houses with kerosene fuel. Standard errors, clustered at the subdistrict level, are reported in parentheses. ***p < 0.01; **p < 0.05; *p < 0.1

Table 16. Results with large bandwidth selection

Alternative Bandwidths	RD Estimator	Robust Inference		Effective N. of Obs.	
		p-value	Conf. Int.	Left	Right
	(1)	(2)	(3)	(4)	(5)
11 (MSE-Optimal)	-0.16409	-2.3675	[-0.3405, -0.0321]	1102	770
20	-0.12783	-2.3592	[-0.3407, -0.0315]	1481	1160
30	-0.08449	-2.2805	[-0.2941, -0.0222]	1719	1566
40	-0.06089	-2.2141	[-0.2694, -0.0164]	1798	1668
50	-0.04869	-2.1908	[-0.2514, -0.0134]	1824	1668

Notes: This table tests for the sensitivity of the 'dynastic effect' to the imposition of large bandwidths around the cutoff. We report conventional estimates using the RD Robust Package in STATA. The first row selects the bandwidth using the MSE-Optimal option of the RD Robust Package in STATA which is 11%. In the subsequent rows we impose bandwidths of size 20%, 30%, 40% and 50%, respectively. All specifications include the following pre-determined covariates as controls: log(distance to the nearest city), log(distance to the border), railroads density in 1992, waterway density in 1992 and night lights growth in the period 1992-1999. Standard errors, clustered at the constituency level, are reported in parentheses. ***p < 0.01; **p < 0.05; *p < 0.1

Appendix Table A2: Correlation between 'status' and 'occupation' categories - [Dynasts]

	zamindar	historic	shrine	agriculture	business	other
Panel A: tenures ≥ 11						
zamindar	1.000					
historic	0.807***	1.000				
shrine	0.576***	0.530***	1.000			
agriculture	0.955***	0.771***	0.566***	1.000		
business	0.024	0.034	-0.011	-1.000	1.000	
other	0.031	0.153***	-0.010	-1.000	-1.000	1.000
Panel B: tenures ≥ 13						
zamindar	1.000					
historic	0.906***	1.000				
shrine	0.585***	0.471***	1.000			
agriculture	0.986***	0.890***	0.5931***	1.000		
business	0.111***	0.117***	-0.0039	-1.000	1.000	
other	-0.012	0.203***	-0.0068	-1.000	-1.000	1.000

Notes: The above table shows the correlation coefficients for the relationship between the various status and occupation based categories for each given level of tenure length. The sample is based on winners for the national and provincial assembly elections held in 2002, 2003 and 2013. ***p < 0.01; **p < 0.05; *p < 0.1

Table A3: Correlation between 'status' and 'occupation' categories - [Non-Dynasts]

	zamindar	historic	shrine	agriculture	business	other
Panel A: tenures ≤ 3						
zamindar	1.000					
historic	0.102***	1.000				
shrine	0.204***	0.022	1.000			
agriculture	0.778***	0.079***	0.221***	1.000		
business	-0.086***	-0.024	-0.058**	-1.000	1.000	
other	0.135***	0.032	-0.016	-1.000	-1.000	1.000
Panel B: tenures ≤ 5						
zamindar	1.000					
historic	0.136***	1.000				
shrine	0.182***	0.052*	1.000			
agriculture	0.755***	0.143***	0.215***	1.000		
business	-0.157***	-0.050*	-0.082***	-1.000	1.000	
other	0.105***	-0.010	-0.009	-1.000	-1.000	1.000

Notes: The above table shows the correlation coefficients for the relationship between the various status and occupation based categories for each given level of tenure length. The sample is based on winners for the national and provincial assembly elections held in 2002, 2003 and 2013. ***$p < 0.01$; **$p < 0.05$; *$p < 0.1$