Like Father, Like Son? The Effect of Political Dynasties on Economic Development*

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Abstract

Politics remains an exceptionally dynastic occupation in democratic societies, even though many countries democratised to end hereditary rule. Dynastic politics has theoretically ambiguous economic effects: bequest motives may lengthen politicians' time horizons (founder effects), but heritable political capital may make elections less effective at holding dynastic descendants accountable (descendant effects). We study how dynastic politics affects economic development in India, compiling detailed biographical data on all Indian legislators since 1862. Using three different identification strategies, we identify (i) descendant effects, (ii) founder effects and (iii) the overall effect of a dynastic political environment. First, using a close elections regression discontinuity design, we find that dynastic descendants reduce earnings, asset ownership and public good provision of villages they represent. Descendants underperform partly due to moral hazard: they inherit voters loyal to their predecessor, which dampens their performance incentives. Second, we show that the incentive to establish a dynasty motivates politicians to perform better. Redistricting allows us to identify villages that were exogenously exposed to founders but not descendants. Using this variation, we find that dynastic founders reduce poverty and improve public good provision of villages they represent. Moreover, consistent with bequest motives, politicians with a son are twice as likely to establish a dynasty and exert more effort while in office. Third, we identify the overall effects of a dynastic political environment using an instrumental variables strategy based on the gender composition of past incumbents' children. Dynastic politics has negative economic effects and results in a "reversal of fortune" development pattern, consistent with positive founder and negative descendant effects. A simple overlapping generations model with heritable human and political capital explains these three empirical facts.

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1 Introduction

Over the past two centuries, many societies democratised to move away from hereditary rule. Yet political dynasties remain ubiquitous in democratic countries: nearly 50% have elected multiple heads of state from a single family, and 15% are currently led by the descendant of a former leader.[1] Politics is significantly more dynastic than other occupations in democratic societies. Individuals are, on average, five times more likely to enter an occupation their father was in. But having a politician father raises one's odds of entering politics by 110 times, more than double the dynastic bias of other elite occupations like medicine and law.[2] Despite their prevalence and influence, we know little about the economic effects of political dynasties.

Economic theory makes ambiguous predictions about how dynastic politics affects development. On the one hand, the incentive to establish a dynasty might lengthen the time horizons of (often short-termist) politicians and encourage them to make long-term investments. These bequest motives, which we call *founder effects*, could be good for economic development. On the other hand, if some political capital is heritable (such as a prominent name or a powerful network), dynastic politics can render elections less effective at selecting good leaders and disciplining them in office. We refer to the (typically negative) selection and incentive consequences of inheriting political capital as *descendant effects*. The overall impact of dynastic politics is ambiguous, because it is the net result of founder and descendant effects.[3]

We study the economic impacts of dynastic politics in India, where legislators play a significant role in local economic development, and the merits of dynasties are publicly contested.[4] Research on dynasties is often stymied by limited data on politicians' family ties. To overcome this challenge, we compile detailed biographical information on (i) all members of India's national parliament (MPs) since 1862, when Indians were first allowed to serve in the British-era legislative assemblies; and (ii) on the universe of candidates (over 105,000) in state and national parliament elections since 2003. We document that political dynasties

[1] We identify democratic countries using the Economist Intelligence Unit's and Freedom House's classification.

[2] We produce these statistics using census microdata from the universe of democratic countries that list "legislator" or "legislative activities" as a separate occupational category. Details are in Section 3.1. The occupation of "Economist" is also highly dynastic: having an economist father increases one's probability of being an economist by 63 times.

[3] The direction of founder and descendant effects are both uncertain. Founder effects could be bad for development if bequest motives encourage parents to make private investments in their political capital (say, by targeting private goods to build a loyal vote base) rather than provide public goods that are valued by all voters. Descendant effects could be positive if the human capital that descendants inherit (like knowledge of how to govern) outweigh the negative selection and incentive consequences of inheriting political capital. We will use two different identification strategies to separately identify founder and descendant effects.

[4] These two quotes by Indian politicians illustrates the contentious nature of dynastic politics. Sukhbir Singh Badal, a dynastic politician, argues that reputational concerns motivate political families to perform better than new entrants. By contrast, Venkaiah Naidu, who recently defeated Mahatma Gandhi's grandson to become India's Vice President, thinks that the returns to political families are mostly private.

"This family system runs because of credibility. Why do people want to buy a BMW...You come out with a new car...nobody will buy it." (Sukhbir Badal, dynastic politician)

"Dynasty in democracy is nasty but it is tasty to some people. That is a weakness of our system." (Venkaiah Naidu, defeated Mahatma Gandhi's grandson to become current VP)

are widespread in India: 10% of MPs are children of former MPs, which is nearly 2500 times higher than random chance would predict. We compile maps of historical constituency boundaries and spatially link villages with the set of parliamentary constituencies they have resided in since Indian independence in 1947. During this period, over 35% of villages have been represented in the national parliament by at least one dynastic politician.

We employ three different empirical strategies to identify (i) descendant effects; (ii) founder effects; and (iii) the overall impact of a dynastic political environment on economic development. First, we identify descendant effects using a close elections regression discontinuity (RD) design. We focus on close races between dynastic descendants (ie. direct relatives of former officeholders) and non-dynasts, and we compare places where a descendant narrowly won to those where a descendant narrowly lost.[5] In these elections, descendants and non-dynasts have similar demographic and political characteristics, and win in similar places and at similar rates. Nevertheless, we find negative economic effects when a descendant narrowly wins. Villages represented by a descendant have lower asset ownership and public good provision after an electoral term, and voters assess descendants to perform worse in office. Households represented for longer periods by a descendant are less likely to live in a brick house and to own basic amenities like a refrigerator, mobile phone, or vehicle. An additional standard deviation of exposure to descendants lowers a village's wealth rank by 12pp.

One potential external validity concern with our RD results is that they are identified based on descendants in marginal races. These descendants — who are in close races despite the political capital they inherit — may be particularly weak. We develop a method to estimate the treatment effect of an "average" (rather than marginal) descendant, and show that our conclusions continue to hold. In particular, we use the fact that aggregate forces which affect a party's overall popularity in an election result in shocks to each descendant's win margin (ie. the running variable in the RD). We find that descendants in close races despite their party having a good year perform particularly poorly in office. By contrast, descendants in close races when their party is having a bad year perform less poorly in office, though still worse than the average non-dynast. We use this variation to estimate the effect of politicians whose victory margin, absent aggregate party swing, would have been similar to that of the average descendant (which is 10%). We find that average descendants perform much better than marginal descendants, but still have negative effects on development relative to non-dynasts.

We provide evidence that moral hazard is one reason that descendants underperform. Descendants

[5] The sample includes all state and national elections since 2003 where the top two candidates are a dynastic descendant and a non-dynast (or vice versa).

face moral hazard because they inherit (some) voters loyal to their father[6], and this dampens incentives to exert effort and perform well in office. Indeed, a significant fraction of political capital appears to be heritable: the parent-child vote share correlation is 0.23, about one-third as large as the correlation between a politician's own vote shares in different elections. We isolate the effects of moral hazard on performance using constituency boundary changes, which affect the overlap between a descendant's electoral district and her predecessor's former electoral district. Redistricting provides a shock to the number of votes a descendant inherits each election. The same descendant earns 1.2pp more votes and completes 2.8pp fewer projects when redistricting increases the spatial overlap between her constituency and her father's former constituency by 10%. Overall, moral hazard explains about 40% of the performance gap between descendants and non-dynasts.

We argue that part of the remaining performance gap is due to dynastic descendants being negatively selected relative to other politicians. Among dynastic descendants, sons-in-law perform significantly better than sons, echoing findings from the family firms literature that hired professional managers are more competent than family CEOs (Bennedsen et al. 2007; Bertrand and Schoar 2006). Moreover, sons with brothers perform better than only sons, hinting at the positive effects of a larger selection pool.

Second, we show that the incentives to establish a dynasty motivate politicians to perform better in office. Isolating founder effects is challenging because most descendants run for office in their father's constituency. Redistricting results in some villages that were represented by the founder being moved into a neighbouring constituency before the descendant enters politics. These villages are thus never represented by a descendant; they are currently in a non-dynast's constituency but were represented in the past by a founder. Comparing villages in the same present-day constituency, we find that villages previously represented by founders are wealthier and have more public goods. Redistricted villages are not selectively chosen (they have similar characteristics to villages that remained in their original constituency), and redistricting has no direct effect on development outcomes. These placebo tests increase our confidence that this identification strategy captures the effect of exposure to founders. Overall, an additional standard deviation of exposure to founders raises a village's wealth percentile rank by 1.5pp.

We argue that the positive effects of founders are partly driven by bequest motives. To test whether bequest motives affect in-office behaviour, we identify a shock to politicians' time horizons based on the gender composition of their children. Women face significant barriers to enter politics in India (only 9% of candidates are women). As a result, conditional on the number of children, politicians who have a son are twice as likely to found a dynasty (relative to politicians with only daughters), even though they appear

[6]Most dynastic predecessors are fathers, though a small fraction are mothers, in-laws and spouses.

similar on most demographic and political characteristics. We show that politicians with a son exert more effort while in office: they are 2pp more likely to complete local development projects (even conditional on the same implementing agency), 6pp more likely to hold the stipulated quarterly meeting with local bureaucrats to take stock of constituency development work, and are assessed by voters to perform better in office.

Third, we estimate the overall effect of a dynastic political environment, which is the net result of founder and descendant effects. Our empirical strategy attempts to simulate the ideal experiment of going from a world where dynasties are not possible (the non-dynastic equilibrium) to a world where they are possible (the dynastic equilibrium). Because politicians with a son are more likely to found dynasties, and sons typically run in their parents' constituency, places where past incumbents had a son are more exposed to both founders and descendants. Using this variation, we find that dynastic rule has overall negative economic effects and results in a distinct "reversal of fortune" development pattern. Exposure to MPs with a son initially has positive effects on development, when the first generation of politicians is in power, due to bequest concerns. But these places — with greater early exposure to MPs with a son — fall so far behind once the second generation of politicians enter politics and inherit their parents' constituencies, that by the end of our sample period, they are poorer and have fewer public goods. These time-varying patterns are consistent with the lifecycle of a dynasty, but inconsistent with the most obvious confounding explanations (eg. son preference or other unobserved differences between politicians with a son and those with only daughters). Moreover, both the initial positive effect and the subsequent negative effect are absent in strongholds of parties with norms against dynasties, like the Communist parties. Overall, a standard deviation increase in exposure to dynastic rule lowers a village's wealth percentile rank by 7pp.

We propose a simple theory of dynastic politics that is consistent with these three empirical facts. The setup is a political agency model with electoral uncertainty, which we embed in an overlapping generations framework. The key element of the theory is that both human capital (eg. knowledge of how to govern) and political capital (eg. name recognition or relationships) are heritable. While in office, politicians exert costly effort to deliver public goods, and these costs are lower for competent politicians. Fixed costs of entering politics lead to positive selection of citizens into politics. Parents receive warm-glow benefits when their descendants hold political office, which creates signalling incentives for parents to perform well in office and signal that they — and by extension, their descendants — are high-types. If political entry costs are higher for women, politicians with a son will be more likely to have bequest motives. As a by-product of being in power, incumbents also acquire political capital that gives them an electoral advantage. If some of

this political capital is heritable, descendants will enter politics at a lower threshold quality and face dampened performance incentives because they inherit votes from their predecessor. This inherited political capital allows descendants to persist in power even when they underperform. This simple theory explains our three main empirical facts — that (i) fathers are good (because of bequest motives), (ii) sons are bad (because of negative selection and moral hazard) and (iii) sons persist in power despite underperforming (because some political capital is heritable).

Our paper extends the political economy of development literature in several ways. First, it contributes to a small literature on political dynasties, summarised recently by Geys (2017), which documents the private returns from family networks in politics (Smith 2012; Querubin 2015, 2013). Dal Bó, Dal Bó and Snyder (2009) documents that marginal winners of US House races are more likely to have family members subsequently hold political office, and Cruz, Labonne and Querubin (2017) describe the advantages that family networks confer during elections. Several papers study the consequences of dynastic rule. Besley and Reynal-Querol (2017) show that hereditary rulers (like monarchs) can be motivated by career concerns to perform well while in office. Asako et al. (2015), Tantri and Thota (2018), Dar (2018) and Bragança, Ferraz and Rios (2015) all study the impacts of marginal dynastic descendants on short-run measures of economic performance, usually finding negative effects. Our contribution is to separately identify founder and descendant effects as well as to consider the overall effect of a dynastic political environment in a unified theoretical framework and empirical setting. We also examine mechanisms for founder and descendant behaviour, and attempt to deal with the external validity critique of descendants in close races.

Second, our paper is connected to a broader literature studying how political institutions affect accountability. A mostly theoretical literature studies inefficiencies in collective choice due to strategic considerations (Austen-Smith and Banks 1996), information frictions (Feddersen and Pesendorfer 1997; Pande 2011), partisan bias (Krishna and Morgan 2011) and electoral rules (Dasgupta and Maskin 2008) like term limits (Besley and Case 1995). We contribute to that literature by showing how elections can deliver socially inefficient outcomes when political capital is heritable.

Third, our results relate to papers in development economics that document "reversals of fortune" due to institutions that concentrate political power. Acemoglu, Johnson and Robinson (2002) document a "reversal of fortune" due to colonisers setting up extractive institutions in places blessed with favourable geography. Banerjee and Iyer (2005) document a similar pattern in India from landlords being vested with political and revenue extraction power. We study the economic effects of an unusually common "bad" institution — dynastic politics — that has received relatively little empirical attention. Dynastic politics leads

to reversals of fortune because areas "blessed" with a politician who has a son initially fare better (since that politician has bequest concerns) but eventually do worse when the descendant enters politics.

Finally, our paper finds similar stylised facts to the literature on dynasties in business, which documents that family firms are worse managed (Bloom and Van Reenen 2007; Lemos and Scur 2018; Bennedsen et al. 2007) and examines theoretical reasons why (Burkart, Panunzi and Shleifer 2003). The family firms literature typically argues that dynastic descendant CEOs underperform due to negative selection. By constrast, we show that moral hazard is an important reason why descendants underperform. Moreover, the mechanisms for persistence of business and political dynasties are theoretically distinct: founder CEOs typically have control rights over their firm, while dynastic politicians have no formal power over voters.

The remainder of the paper is organised as follows. Section 2 proposes a simple theory of dynastic politics. Section 3 describes the Indian context and the data we use. Section 4 presents results on descendants effects. Section 5 presents results on founder effects. Section 6 presents results on the overall effect of dynastic politics. Section 7 concludes.

2 A simple theory of dynastic politics

In this section, we develop a simple model to analyse the economic effects of dynastic politics. The setup is based on the political agency framework used extensively by Besley (2007). We extend this model by (i) introducing electoral uncertainty as in a probabilistic voting model and (ii) nesting it in an overlapping generations (OLG) framework. The key element of the model is that both human and political capital are heritable. Incumbents take costly actions to provide public goods, and these actions are less costly for competent politicians, creating signalling incentives for founders. Parents receive warm-glow benefits when their offspring hold political office. Heritable human capital thus gives incumbent parents further incentive to perform well to signal to voters that they — and, by extension, their descendant — are high types. However, incumbents also accumulate political capital while in office. When some of this political capital (eg. a prominent name or a powerful network) is heritable, descendants can persist in power even when they underperform.

2.1 The environment

Citizens An economy consists of a mass 1 of citizens. There are 2 generations, and each lives for 2 periods. At birth, each citizen is assigned a type $i = \{q, j\}$ that consists of (i) her ability level $q \sim U(0, 1)$ and (ii) a

parameter capturing her gender $j \in \{m, f\}$, where both occur with equal probability.

Politicians Each period, citizens elect a politician whose job is to provide a public good $B \in \{0, 1\}$. Politicians are drawn from the citizenry. Each period, two citizens are randomly nominated to run for office and pay entry cost $\phi_j > 0$ if they contest the election. Women face significant barriers to entering politics in many democratic societies, and we capture this by supposing $\phi_f > \phi_m$.

Voting As in a standard probabilistic voting model, there are two sources of electoral uncertainty: (i) each voter receives an idiosyncratic shock $\sigma_i \sim U\left[-\frac{1}{2}, \frac{1}{2}\right]$ and (ii) the incumbent receives an aggregate popularity shock δ which determines the election. δ follows a general distribution function f that is unimodal, non-uniform and symmetric around 0. Additionally, each period the incumbent acquires political capital (eg. name recognition, control over the party machine) that delivers a share of k loyal votes in the next election.

Policymaking Incumbents receive benefits E, which capture the pecuniary and ego benefits from holding public office, regardless of whether they deliver the public good. While in office, the incumbent chooses effort $e \in \{0, 1\}$ and delivers public good benefits B to citizens if and only if she exerts effort. Delivering the public good is particularly challenging for less competent politicians. Hence, effort costs are $\frac{c_t}{q}$, where $c_t \sim U[0, C]$ varies based on the administrative and political complexity of delivering the public good in period t.

Intergenerational Issues Each citizen has 1 offspring, whose ability is private knowledge to the offspring and her parent. A parent receives warm-glow utility ψE (where $\psi < 1$) if her descendant holds political office. Both human capital (ie. ability) and political capital are heritable but mean revert. Hence, a politician with ability q has a descendant of expected ability $q_D = \rho\left(q - \frac{1}{2}\right) + \frac{1}{2}$, $\rho \in (0, 1)$. Similarly, an incumbent with political capital k passes on αk (where $\alpha < 1$) to her descendant. All citizens have discount factor $\beta < 1$.

Timing The timing of the model in each generation is as follows.

1. Generation t is born and nature assigns each citizen a type $i = \{q, j\}$.
2. Two citizens are randomly nominated to run for office and decide whether to pay ϕ_j and contest the election. If a citizen declines, another is randomly nominated to run.

3. The shocks σ_i and δ are realised, and voting occurs.

4. The period 1 incumbent receives a draw from effort cost distribution c_1 and chooses effort e_1

5. Voters observe their payoffs, receive σ_i and δ, and decide whether to re-elect the incumbent or elect the challenger

6. Generation $t+1$ is born and parents observe their type $i = \{q, j\}$

7. The period 2 incumbent receives a draw from c_2 and chooses e_2

8. Payoffs are realised and the game ends.

2.2 Equilibrium

We characterise Perfect Bayesian Equilibria where politicians' strategies are optimal given citizens' beliefs.

Voters Consider voters' decision whether to re-elect an incumbent based on observing B_1. Competent politicians are more likely to deliver the public good in period 2, so voters maximise payoffs by inferring incumbent type from B_1.

If $B_1 = 0$, voter i chooses to re-elect the incumbent over a fresh challenger iff $\mathbb{E}U_{incumbent} = 0 + \sigma_i + \delta > q_p B = \mathbb{E}U_{challengerr}$, where q_p denotes the average ability of a fresh politician. Swing voters choose the incumbent with probability $\frac{1}{2} + \delta - q_p B$. However, since the incumbent has also acquired political capital that gives her a vote share advantage of k, her total vote share is $V_{Incumbent} = k + (1-k)\left(\frac{1}{2} + \delta - q_p B\right)$, and she gets re-elected with $\mathbb{P}r\left(win|B_1 = 0\right) = \mathbb{P}r\left(V_I > \frac{1}{2}\right) = \mathbb{P}r\left(\delta > -\frac{k}{2(1-k)} + q_p B\right) = 1 - F\left(-\frac{k}{2(1-k)} + q_p B\right)$.

By contrast, if $B_1 = 1$, then voters' posterior belief that the incumbent is competent is $q_p^{'} = \frac{q_p}{q_p + (1-q_p)\lambda_1} > q_p$where $\lambda_1 < 1$ is the probability that the average politician would deliver the public good in period 1. Hence, swing voter i chooses to re-elect the incumbent iff $q_p^{'} B + \sigma_i + \delta > q_p B$. By similar reasoning as above, we obtain $\mathbb{P}r\left(win|B_1 = 1\right) = 1 - F\left(-\frac{k}{2(1-k)} - B\triangle q_p\right)$, where $\triangle q_p = q_p^{'} - q_p$.

In-office behaviour Absent bequest motives, the incumbent would always choose $e = 0$ in period 2. However, she can be motivated by re-election concerns to exert effort in period 1. In particular, the incumbent chooses $e_1 = 1$ iff $c_1 < (\pi_1 - \pi_0) \cdot q\beta E$, where π_e denotes the incumbent is re-elected when she chooses effort e. Observe that

$$\pi_1 - \pi_0 = \mathbb{P}r\left(win|e_1 = 1\right) - \mathbb{P}r\left(win|e_1 = 0\right) = F\left(-\frac{k}{2\left(1-k\right)} + q_p B\right) - F\left[-\frac{k}{2\left(1-k\right)} - B\left(q_p^{'} - q_p\right)\right]$$

Hence, we can define $\lambda_1^{BS} \equiv \mathbb{P}r\left(e_1 = 1 \,|q\right) = \frac{(\pi_1 - \pi_0)\beta E q}{C}$ to be an index of incumbent discipline in period 1 under the baseline model.

Entry A citizen of ability q derives expected time discounted value from office $V\left(q\right) = E + \lambda_1 \left(\beta \pi_1 E - \frac{c_1}{q}\right) + \left(1 - \lambda_1\right) \pi_0 \beta E$. It can be shown that $\frac{\partial V}{\partial q} = \frac{\partial \lambda_1}{\partial q}\left(\triangle \pi \beta E - \frac{c_1}{q}\right) + \lambda_1 \cdot \frac{c_1}{q^2} > 0$. This condition says that the returns to political office are increasing in ability, which is driven by fixed entry costs and effort costs that are decreasing in ability. We can thus define q^* to be the cutoff point at which $V\left(q^*\right) = \phi$. Only citizens with $q > q^*$ will find it optimal to enter politics. This positive selection of citizens into politics is consistent with recent empirical evidence from Sweden (Dal Bó et al. 2017).

Two other points are noteworthy. First, higher barriers to entry for women result in $q_f^* > q_m^*$. Since women and men are drawn from the same ability distributions, women will be less likely to enter politics than men. Second, because some political capital is heritable, descendants of former incumbents start with a αk electoral advantage. Hence, fixing a performance level B, dynastic descendants will be more likely to win (ie. $\pi_1^D > \pi_1$ and $\pi_0^D > \pi_0$). As a result, for any level of ability q, it will be the case that dynastic descendants derive higher returns from political office $V^D\left(q\right) > V\left(q\right)$. The implication is that $q_D^* < q^*$, ie. that descendants have a lower quality threshold at which they enter politics.

2.2.1 Prediction #1: Politicians with sons perform better in office

Bequest motives Recall that the incumbent parent observes her descendant's type — gender and ability — after being elected but before choosing her effort level. Hence, before choosing her effort level, the incumbent knows whether her descendant's ability q_D is sufficiently high to enter politics. If $q_D < q_D^*$, then the incumbent always chooses $e_2 = 0$. However, if $q_D > q_D^*$, then the incumbent internalises that delivering the public good can raise her offspring's chances of winning. This is because ability is heritable: voters will (rationally) infer the descendant's type from the parent's performance.

Let $q_D^{avg} = \frac{q_D^* + 1}{2}$ denote the average quality of a descendant politician. However, on observing that the parent delivered $B_1 = B_2 = 1$, voters will update their beliefs about the parent, and consider her now to have ability $q^{'} = \frac{q_p}{q_p + \left(1 - q_p\right)\lambda_1 \lambda_2^{DP}}$. Since ability is heritable, voters will also thus update upwards about the descendants, and think she has ability $q_D^{'} = \rho\left(q^{'} - \frac{1}{2}\right) + \frac{1}{2} > q_D^{avg}$.

Hence, by choosing $e_2 = 1$, the parent boosts her offspring's descendant's chance of winning by $\triangle q_D \cdot \left(\frac{\partial \mathbb{P}r(D\, wins)}{\partial q_D}\right) = \left(B \triangle q_D\right) \cdot f\left[B\left(q_p - q_D\right) - \frac{\alpha k}{2(1 - \alpha k)}\right]$. As a result, the period 2 incumbent chooses $e_2 = 1$ if $c_2 < B \cdot f\left[B\left(\pi_p - \pi_D\right) - \frac{\alpha k}{2(1 - \alpha k)}\right] \cdot \psi E$, which occurs with probability $\lambda_2^{DP} = \frac{B \cdot f\left[B\left(q_p - q_D\right) - \frac{\alpha k}{2(1 - \alpha k)}\right] \cdot \psi E}{C} > 0$.

How gender of politicians' children affects voter welfare Consider an incumbent parent of ability q. The expected ability level of her son or daughter is the same regardless of gender. However, since $\phi_f > \phi_m$ (ie. women face greater barriers to enter politics), we have $q_f^* > q_m^*$, so a daughter is less likely to be above the entry threshold than a son. Politicians with a son should thus be more affected by bequest motives. Since a politician always shirks in period 2 when not motivated by bequest concerns, we should expect politicians with a son to deliver more public goods than incumbents who have only daughters.

Moreover, bequest motives make incompetent incumbents weakly more disciplined even in period 1. Without bequest motives, incumbents choose $e_1 = 1$ if $c_1 < (\pi_1 - \pi_0)\beta Eq$. But anticipating the possibility of bequest motives, the period 1 incumbent chooses $e_1 = 1$ if $c_1 < \frac{1}{2}\triangle\pi\beta Eq + \frac{1}{2}(\triangle\pi)\beta\mathbb{E}V(c_2)$, where $V(c_2) = max\{E, E - c_2 + \psi E\}$.

Bequest motives thus strictly improve the welfare of older generation voters, since the incumbent is strictly more likely to provide the public good in period 2 and weakly more likely to do so in period 1. Hence, empirically we should expect older generation voters to be better off under politicians who have a son.

Discussion In this model, politicians can only take actions to improve voter welfare. Moreover, political capital is accumulated mechanically (eg. a fraction k voters are inattentive every period and vote for the candidate whose name they recognise). Politicians cannot invest in political capital, say, by targeting private goods to build a base for their descendant. Extending the model to include a richer action space for politicians would make founder effects ambiguous. Politicians with a son would still be more motivated by bequest concerns, but it would be ambiguous whether that motivates them to provide public goods and build a reputation for delivering development, or provide private goods to a subset of voters and build a reputation for clientelism[7].

2.2.2 Prediction #2: Descendants underperform in office

Recall that dynastic descendants enter politics so long as $q_D > q_D^*$ where $q_D^* < q^*$. Rational voters realise that descendants are on average worse types, but nonetheless a descendant is more likely to win in equilibrium if inherited political advantages αk are sufficiently large. Specifically, descendants are more likely to win in equilibrium if $1 - F\left[B\left(\pi_p - \pi_D\right) - \frac{\alpha k}{2(1-\alpha k)}\right] > \frac{1}{2} \iff \alpha k > \frac{2B\left[\pi_p - \pi_D\right]}{1+2B\left[\pi_p - \pi_D\right]}$.

[7]Our empirical results suggest that founders have positive effects on development, and bequest motives encourage politicians to do "good" things, such as exerting more effort to complete development projects, and attending more meetings with local bureaucrats. We do not find evidence that bequest motives are encouraging politicians to do "bad" (but potentially politically advantageous) things, like vote buying or handing out public road contracts to co-ethnics.

Having argued that the incentive to establish a political dynasty motivates potential founders to perform better for older generation voters, we now study how descendants perform for younger generation voters. We first consider the performance of non-dynasts as a benchmark. Younger generation voters' expected utility (in periods 3 and 4) from electing a non-dynast is $\mathbb{E}U = B\left[q_p + \lambda_1\left(1 - q_p\right)\right] + \beta B\left[q_p + \left(1 - q_p\right)\left(1 - \lambda_1\right)q_p\right]$, where q_p is the quality of the average politician. The first term captures period 3 expected utility and the second term captures discounted period 4 expected utility.

Worse selection As discussed above, fixed entry costs result in positive selection of citizens into politics, ie. $q_p > \frac{1}{2}$. But dynastic descendants are on average worse types than the average politician $q_D^{avg} < q_p$. Since $\frac{\partial \mathbb{E}U}{\partial q} > 0$, we should expect descendants to perform better than non-dynasts because they are better selected.

Moral hazard Moreover, because descendants inherit political capital that is unrelated to their performance (eg. name recognition), descendants have weaker performance incentives than non-dynasts. Recall that an incumbent earns private political capital k while in office and thus exerts effort with probability $\lambda_1^{BS} = \frac{\triangle \mathbb{P}r(re-elected)\cdot \beta E}{C} = \frac{\beta E \cdot \left\{F\left(-\frac{k}{2(1-k)} + q_p B\right) - F\left[-\frac{k}{2(1-k)} - B\left(q_p' - q_p\right)\right]\right\}}{C}$.

By contrast, a descendant inherits αk units of political capital and earns a further k units while in office. Hence, she finds it optimal to exert effort iff

$$c_1 < \triangle \mathbb{P}r\left(D\, re - elected\right)\cdot \beta E = \beta E \cdot \left\{F\left(-\frac{\alpha k + k}{2\left(1 - \alpha k - k\right)} + q_p B\right) - F\left[-\frac{\alpha k + k}{2\left(1 - \alpha k - k\right)} - B\left(q_D' - q_p\right)\right]\right\}$$

This occurs with probability $\lambda_D = \frac{\beta E \cdot \left\{F\left(-\frac{\alpha k + k}{2(1-\alpha k-k)} + q_p B\right) - F\left[-\frac{\alpha k + k}{2(1-\alpha k-k)} - B\left(q_D' - q_p\right)\right]\right\}}{C}$. The effect of inheriting votes on effort choices is uncertain. On the one hand, if winning an election is generally very difficult (ie. if baseline victory probability) is very low, then inheriting some political capital could increase incentives. On the other hand, if the baseline victory probability due to inherited votes is already very high, then the increase in victory probability due to exerting effort and delivering the public good are small, and this could lead to moral hazard. A sufficient condition for moral hazard is $\lambda_D < \lambda_1^{BS}$, which occurs if $\frac{\alpha k + k}{2(1-\alpha k-k)} - \frac{k}{2(1-k)} > B\left(q_p' - q_D'\right)$. This condidtion intuitively says that the descendant's loss in incentives because of additional inherited electoral advantage is larger than the gain in incentives due to voters having a weaker prior over her.

Discussion We have argued that dynastic descendants are likely to underperform in providing public goods as compared to non-dynasts. The key mechanisms for descendant underperformance are negative selection and moral hazard.

2.3 Empirically testing theory's predictions

First generation citizens are better off under dynastic politics as bequest motives encourage incumbents, particularly those with sons, to exert greater effort. Second generation citizens are worse off under dynastic politics as descendants are both of worse type and have weaker incentives than non-dynastic candidates. The net effect of dynastic politics is ambiguous because of these offsetting founder and descendant effects. To test these three predictions, we exploit three different sources of variation.

Prediction #1: Descendants perform worse than non-dynasts

We identify the effects of descendants using a close elections regression discontinuity design, comparing places where a descendant narrowly won against places where a descendant narrowly lost. To test whether moral hazard plays a role, we examine constituency boundary changes that result in a descendant inheriting different numbers of votes in different elections.

Prediction #2: Bequest motives improve founder performance

We identify the effects of dynastic founders using constituency boundary changes that move villages in the founder's constituency into a neighbouring constituency before the descendant enters politics. To test whether bequest motives play a role, we compare the in-office performance and effort of politicians with a son against that of politicians with only daughters.

- *The overall impact of dynastic political equilibrium is ambiguous*

To identify the overall effects of a dynastic political equilibrium, we use the gender composition of past incumbents' children as an instrument for exposure to dynastic politics.

The next section discusses the empirical setting in which we test these predictions.

3 Context & Data

3.1 Dynasties around the world

How dynastic is politics compared to other occupations? To answer this question, we collect census micro-data from the universe of democratic countries (30) that list "legislator" or "legislative activity" as a special

occupational category. Next, we construct a simple measure of dynastic bias, namely

$$Dynastic\ bias_i = \frac{Pr(child_i | father\ in\ occupation\ i)}{Pr(child_i | father\ not\ in\ occupation\ i)}$$

This measure is known as the Bayes factor, and compares an individual's likelihood of entering an occupation if her father was in it vs if her father was not in it. Intuitively, a very dynastic occupation is one where a person has a high chance of entering if his father was in the occupation but a low chance of entering if her father was not. We compare occupations on this measure of dyanstic bias. The results are presented in Table A.1. The most dynastic occupation in the sample is the occupation of traditional village chief, which can be considered a benchmark of non-democratic politics. Having a chief father raises one's chances of being a chief by 200 times. At the 94th percentile of occupations is electoral politics. Having a politician father increases one's odds of being a politician by 110 times. This dynastic bias of politics is significantly higher than for other elite occupations like medicine (53 times) and almost 22 times higher than the dynastic bias of the average occupation.

3.2 India as a lab to study political dynasties

India is a good laboratory to study the economic effects of political dynasties for several reasons. First, there is rich subnational variation in development levels. The more developed states (like Kerala) have Human Development Index scores that are similar to Russia, while the least developed states (like Uttar Pradesh) have scores similar to Chad. Second, India's system of government accords elected representatives a significant local development role. We focus on Members of Parliament (MPs) elected to the *Lok Sabha*, the lower house of India's bicarmel national legislature. MPs are elected in single-member districts by plurality rule. Each term lasts 5 years (or until the parliament is dissolved) and there is no term limit. Under the MP Local Area Development Scheme (MPLADS), each MP receives approximately $1M per year. These funds are discretionary but are typically used for public works projects in their constituency. MPs serve on many committees in their constituencies, chair quarterly meetings with local bureaucrats to assess the progress of local development projects under the DISHA program, and have informal clout to influence the allocation and functioning of government programs (Lehne, Shapiro and Eynde 2018). Third, institutional features allow political dynasties to arise in India. Single-member constituencies, a candidate-centred electoral system based on plurality rule, weak political parties and no term limits all combine to allow politicians to develop personal reputations. Indeed, 12 of India's 14 Prime Ministers have founded a political dynasty, ie. a descendant has followed them into politics. Nearly one-third of party leaders and

Chief Ministers are descendants of former officeholders (Chandra 2016). Perhaps the most well-known of India's political dynasties is the Nehru-Gandhi family that has spawned 3 Prime Ministers and 14 elected officials over 5 generations. 2019 will mark the 100th anniversary of the family's leading position in the Indian National Congress, the country's oldest party. Our fourth reason to study India is that empirical research on political dynasties is often stymied by data challenges, principally the difficulty of collecting data on family ties between politicians. I now describe how we are able to circumvent these challenges.

3.3 Data

3.3.1 Identifying dynastic politicians

We exploit two data sources to identify dynasties links. First, we compile and digitise biographical profiles of all 4807 MPs since India's first parliament in 1952. These profiles contain the names of each MP's father, mother and spouse (see Figure A.2 for an example). We code an MP as a dynastic *descendant* if her father, mother or spouse previously held a Lok Sabha seat, or was nominated or elected to the imperial legislative councils, a British-era assembly that first included Indian members in 1862. We code an MP as a *founder* of a political dynasty if she was succeeded into politics by a close relative ie. if her son, daughter or spouse won a Lok Sabha seat in a later period[8]. The biographical profiles also contain detailed information on each MP's demographic and political characteristics, including date of marriage and the number of sons and daughters she has (but not birth order). We will use this data to construct our instrument.

Second, we compile affidavits that all candidates in state and national elections after 2003 must file along with their nomination papers to verify their identity and personal attributes. These affidavits contain the names of each candidate's father (for 95% of candidates) or spouse. We digitise, scrape and clean over 105,000 affidavits. This enables us to construct the dynastic status of all candidates — not just winners — since 2003. We use this data to estimate the electoral advantage that dynastic politicians inherit, and to estimate a close elections RD design comparing places where dynastic descendants win and lose.

Our approach to identifying familial links underestimates the share of dynastic politicians for two reasons. First, because we (i) only classify politicians with parental or spousal links as dynastic, overlooking politicians with other types of connections (eg. siblings, uncles) to former parliamentarians. Second, because we (ii) only identify links to former members of the national assembly and overlook links to state assembly officeholders for most of the analysis. We verify our approach to classifying dynastic politicians

[8] A politician can be both a founder and a descendant. For example, India's first Prime Minister, Jawaharlal Nehru, was an MP from 1948-1964. He was (i) son of Motilal Nehru, who served between 1923-1930 in the colonial-era Central Legislative Assembly, as well as (ii) father of Indira Gandhi, India's 3rd Prime Minister and MP between 1967 and her assassination in 1984.

by manually coding dynastic ties for all winners and runners-up in close Lok Sabha races from 1999-2014 and by comparing our classification with the work of French (2011).

Prevalence of dynastic politicians Figure A.3 demonstrates that the share of MPs who are dynastic descendants has increased over time, from 0.7% in 1952 to 9.8% in 2014. Figure A.4 shows that the average figures mask substantial variation in the share of dynastic officeholders across states, ranging from 2% in Tamil Nadu to 9.7% in Uttar Pradesh. We also find that India's two most dominant parties — the Indian National Congress and the Bharatiya Janata Party — have a similar fraction of dynastic candidates, despite popular perceptions to the contrary[9].

3.3.2 Spatial variation in dynastic rule

We link 3 sources of data to construct village-level measures of exposure to dynastic rule. First, we spatially link each present-day village with the set of parliamentary constituencies it has resided in over time. Constituency boundaries have changed thrice since independence — in 1963, 1974 and 2008 — so a village may lie in different constituencies at different times. Second, we identify whether the representative of each constituency in each year was a *founder* or *descendant*. This enables us to construct measures of exposure to founder and descendant rule for each village. Our key explanatory variable will be the *Years Dynastic Rule*$_i$, which we define as the number of years village i was ruled by either a founder or a descendant.

$$Years\,dynastic\,rule_i = Years\,founder\,rule_i + Years\,descendant\,rule_i \tag{1}$$

Table 1 shows that 35% of villages have experienced at least 1 year of dynastic rule since India's first parliament in 1952. For villages that have experienced a dynasty, the average length is 16 years or about 30% of years. Figure 1 presents a choropleth map demonstrating the significant spatial variation in dynastic rule across India.

3.3.3 Economic outcomes

Earnings, Asset ownership and consumption We create measures of each village's wealth status using the Socioeconomic and Caste Census (SECC), a household-level census that contains occupation, earnings, housing and asset ownership information for all households in rural India. The Indian government designed and fielded the SECC to determine eligibility for poverty alleviation programs. We construct

[9] BJP leaders in fact often campaign against the Congress Party for being dynastic (https://timesofindia.indiatimes.com/india/pm-modi-hits-out-at-the-congress-over-dynasty-politics/articleshow/65015700.cms)

variables denoting whether a household (i) earns more than Rs 5000 per month (~$70), (ii) live in a brick house, and own basic amenities like a (iii) fridge, (iv) mobile phone, and (v) vehicle. We compute the share of households in each village that satisfy (i)-(v), and then construct the village's wealth rank by taking the principle component of these 5 variables and computing percentiles.

We measure annual consumption for the period 1998-2013 using data from the household expenditure module of the National Sample Survey (NSS). This data is only available at the district level. Since administrative districts do not match neatly with parliamentary constituencies, we restrict attention to districts dominated by a single constituency when considering consumption outcomes.

Public good provision We construct detailed measures of public good provision in each village based on the village amenities tab of the decennial Indian Census. We consider 5 categories of public goods — education, health care, sanitation, connectivity and electricity. For each category, we construct dummy variables denoting the availability of public goods and construct a public goods category rank by taking the principal component of the underlying variables. For example, the sanitation index is the principal component of dummy variables denoting the availability of treated tap water, a drainage system, closed drainage, a garbage collection system and a total sanitation program.

Night time light intensity We use night time luminosity as a proxy for local economic activity. Existing work in the development economics and economic geography literatures have found that night light intensity correlates strongly with human development levels and growth over time (Henderson, Storeygard and Weil 2012; Costinot, Donaldson and Smith 2016; Donaldson and Storeygard 2016; Bruederle and Hodler 2018). The data come from images taken by NASA satellites of the world at night. The advantages of this data are that they are available as an annual panel and at a very fine spatial level ($1km^2$).

Voter perceptions Voters may value things other than objective measures of economic development. We construct measures of voter preferences and subjective performance assessments using data from a survey conducted by the Association of Democratic Reforms (ADR), an Indian NGO. Approximately 500 voters in each constituency were asked, for each of 30 issues, to rate on a scale of 1-3, how important the issue was to them and how well their Member of Parliament performed on the issue. The survey also contained measures of vote buying and vote beliefs. Table A.2 shows that voters appear to value public goods most highly — employment opportunities, public transport, roads, electricity supply and drinking water are the

5 issues rated most important[10].

Local development projects We compile measures of politician effort using data from the Member of Parliament Local Area Development Scheme (MPLADS). Each MP is allotted approximately $1M per year to spend on development projects in her constituency. These funds can generally be spent in a discretionary way, but are typically implemented by the relevant agency of the local bureaucracy. We compile data on the universe of MPLADS projects conducted, including data on project status, project type, expenditure, implementing agency and expenditure. Our key measure of politician effort will be the share of projects that are completed or stalled, including fixed effects to control for the quality of the implementing agency.

4 The Effect of Dynastic Descendants on Development

This section presents three empirical results illustrating how dynastic descendants affect economic development. First, we identify descendant effects using a close elections RD design. Second, we investigate the external validity of our RD estimates. Third, we study the mechanisms driving descendant behaviour using within-politician variation in performance over time.

4.1 Main Results on Descendant Effects

4.1.1 Empirical Strategy: Close Elections Regression Discontinuity Design

To identify descendant effects, we need a source of exogenous exposure to dynastic descendants. The ideal experiment would randomly allocate dynastic descendants to constituencies, and compare descendant-ruled constituencies against non-dynast-ruled constituencies on measures of economic development. We approximate this experimental ideal using a close elections regression discontinuity design. We examine close races between a descendant and non-dynast, and compare places where a descendant narrowly won against places where a descendant narrowly lost. This identification strategy generates exogenous exposure of places to descendants under the assumption that close elections are essentially randomly determined. This assumption is standard in the empirical political economy literature, and is supported by an established literature in applied econometrics (Eggers et al. 2015; Lee 2008; Imbens and Lemieux 2008). We estimate the following regression model:

[10] As a sanity check on the quality of the data, we find that rural voters do not care at all about urban issues like "traffic congestion" and "facilities for pedestrians" while urban voters do not care at all about rural issues like "agricultural loan availability" or "electricity for agriculture"

$$y_i = \alpha_{district} + \beta \cdot Years\, descendant\, rule_i + f\left(Descendant\ \ margin_i\right) + \gamma X_i + \varepsilon_{it} \tag{2}$$

where y_t denotes development outcomes in village i, $Descendant\, win_i$ is a dummy variable indicating whether a dynastic descendant represents village i in the national or state parliament, $Descendant\, margin_i$ indicates the vote share difference between the dynastic descendant and non-dynast[11], and γX_i is a vector of village-level controls.

Validity of Close Elections RD design

We begin by providing empirical support for the validity of the RD design in our setting. First, in close races, dynastic descendants and non-dynasts have similar demographic and political characteristics (Table A.3). Second, we test whether key candidate and village characteristics are continuous at the cutoff. We estimate our main regression discontinuity design specification using predetermined politician and village covariates as the outcome variables. When a descendant narrowly wins a close election, key candidate characteristics (like prior political experience, wealth and education) remain continuous at the cutoff (Figure A.5). Moreover, key village characteristics (such as pre-period public goods levels) are similar in places where descendants narrowly win and lose. Covariate smoothness allays concerns that our RD estimates are driven by pre-existing differences in candidate or place characteristics. Third, a McCrary density test shows that descendants and non-dynasts are equally likely to win marginal races, and there is no evidence of manipulation or bunching around the cutoff (A.7).

4.1.2 Baseline RD Results: Development Effects of Marginal Descendant

We examine the effect of descendants on objective measures of economic development — poverty and public good provision — and voters' subjective assessments of politician performance. We find that dynastic descendants perform worse than non-dynasts on all three outcomes.

Poverty First, we estimate 2 using proxies of poverty from the Socioeconomic and Caste Census (SECC) as outcome measures. We find that descendants reduce household asset ownership. An additional year of being represented by a descendant reduces the share of household who live in a brick house by 3.9pp and who own a phone by 2.4pp. We find no effects on earnings, or fridge or vehicle ownership. (Figure 2). Overall, an additional year of descendant rule lowers a village's wealth percentile by 2.6pp. Hence, an

[11] Recall that we have restricted attention to elections where the top two candidates are a dynastic descendant and a non-dynast.

additional standard deviation of descendant rule lowers a village's wealth percentile by about 13pp (Panel A of Table 2). This effect size is approximately the difference in wealth levels between the Indian states of Tamil Nadu and Rajasthan[12].

Public Good Provision Second, we estimate our baseline RD specification using measures of public good provision from the Indian Census. We construct indices based on the availability of different categories of public goods, and take the principal component to construct an overall public goods index. We find that descendant rule worsens public good provision. In particular, we find negative effects of descendant rule on education, health care and sanitation public goods. Descendant-ruled villages are less likely to have primary and secondary schools, a primary health centre and basic public health infrastructure such as a treated tap water, drainage or garbage collection system. Overall, an additional year of descendant rule lowers a village's public good rank by 1pp. Thus, an additional standard deviation of exposure to descendants lowers a village's public goods rank by 6pp (Panel B of Table 2). Descendants' worse public goods performance cannot be attributed to mean reversion or their inheriting more developed places, since we showed that villages in constituencies where descendants narrowly win have similar pre-period public goods levels (A.6).

Voter assessments of performance The above evidence shows that descendants perform worse than non-dynasts on objective measures of poverty and public good provision. Nevertheless, descendants may be welfare-improving for voters if they perform better than non-dynasts on other aspects that voters value. In this section, we show that descendants are also assessed by voters to perform worse while in office. Voter assessments come from a survey conducted by an Indian NGO, and indicate how important a voter thought an issue was and her assessment of the MP's performance on it. We collapse voters' assessments into four performance indices, capturing their politician's ability to redistribute resources to the poor, deliver public goods, provide security and exert effort. The point estimates are negative for all four categories, but are statistically significant only for the redistribution, public goods and effort categories. The largest effect is seen for the effort category, where descendants are assessed to perform 17 percentiles worse than non-dynasts. Overall, descendants are assessed to perform 15 percentiles worse by voters. (Panel C of Table 2).

We discuss further results on descendant effects in Appendix A.

[12]Using the Human Development Index scores of both these states, and comparing them to countries with the same score, we can say that an additional standard of exposure to a dynastic descendant has the approximate effect of taking a country like Botswana or Uzbekistan and reducing it to the level of East Timor or Honduras.

4.1.3 Robustness of Baseline Results

We investigate the robustness of our estimates to three standard RD sanctity checks. First, we show that there are no discontinuities at placebo cutoffs (-3, -2, -1, +1, +2, +3), where treatment does not change (Figure A.9a). This test provides evidence that the regression function for treated and control observations is generally continuous at points away from the actual cutoff. While the test cannot guarantee that the regression would have been continuous at the cutoff in the absence of the treatment (descendant victory), it does increase our confidence in this identification assumption (Cattaneo, Idrobo and Titiunik 2017). Second, we estimate "donut hole" RD specifications, dropping observations immediately around the cutoff as these are most vulnerable to manipulation. Our estimates are not sensitive to the size of the donut hole: they remain negative and statistically significant at the 5% level (Figure A.9b). Third, our RD estimates are not sensitive to the bandwidth choice. The estimates remain negative and significant for all bandwidths between 1% and 20%, though the estimates show a gradually declining pattern as we increase the bandwidth size (Figure A.9c).

4.2 Improving External Validity of RD estimates

4.2.1 Empirical Strategy: Aggregate Party Swing as shock to victory margin

The previous subsections provided evidence that the RD design generates internally valid estimates of descendant effects. But the RD's identifying variation comes from dynastic descendants who — despite inheriting political capital from their predecessors — are in close elections. While similar to non-dynasts in marginal races, it is possible that marginal descendants "weaker" than the average descendant. Though we find empirically that descendants in close races have similar observable demographic and political characteristics to descendants who win by larger margins (A.4), marginal descendants could still differ on unobservables that affect their performance in office.

This subsection evaluates the external validity of our RD estimates. We exploit the fact that aggregate party swing, which results from national- or state-level factors unrelated to candidate i, nevertheless affects candidate i's vote share. We interpret aggregate party swing as a shock to the descendant's win margin (ie. to the running variable in the RD regression). Specifically, we construct a variable that captures the "leave-one-out" average swing experienced by candidate i's party p in her state s during election t:

$$Party\ swing_{ipst} = \sum_{j=1, j\neq i}^{N} \frac{V_{jpst} - V_{jps,t-1}}{N-1} \tag{3}$$

For each winner i, we then compute the "no swing" descendant margin as follows:

$$\text{"No swing" descendant margin}_i = \text{Actual descendant margin}_i - \text{Descendant swing}_i + \text{Nondynast swing}_i \quad (4)$$

where $\text{Actual descendant margin} = \text{Descendant vote share} - \text{Nondynast vote share}$ is the running variable in the RD regression. Intuitively, when the "no swing" descendant margin is negative, the descendant would have lost in the absence of aggregate party swing. Similarly, when the "no swing" descendant margin is positive, the descendant would have won in the absence of aggregate shocks to her vote share.

Test of key identifying assumption The key identifying assumption in this empirical exercise is that party swing can be considered a shock to a candidate's vote share that (i) does not directly affect in-office performance and (ii) is uncorrelated with factors that do. We provide supporting evidence for both assumptions. Leave-one-out party swing appears to have no direct effect on economic outcomes and is uncorrelated with candidate and village characteristics (A.11). We present 3 results.

4.2.2 Development Effects of Average (rather than Marginal) Descendant

First, we re-estimate the RD regression restricting attention to descendants whose "no swing" margin is negative. Some of these descendants won in close races, but would have lost without helpful party swing. We find that these descendants perform particularly poorly in office: an additional year of their rule lowers a village's wealth rank by 4pp (Figure 3). These descendants, nudged into office by a rising tide for their party, are worse for development than the regular "marginal race" descendant, who lowers a village's wealth rank by 2.5pp per year in office (Table 3).

Second, we re-estimate our baseline RD regression restricting attention to descendants whose "no swing" margin is positive. Some of these descendants ended up losing, but would have won if their party was not having such a bad year. We find that these descendants also have negative impacts on local economic development, but these effects are weaker than those of the regular "marginal race" descendant: an additional year of rule reduces a village's wealth rank by 1.7pp.

Third, we use the party swing variation to estimate the development effects of a median — rather than marginal — descendant. The median descendant wins by approximately 9.5 percentage points in the absence of party swing. We re-estimate our baseline RD specification restricting attention to descendants whose victory margin, in the absence of party swing, would have been close to the median victory margin. We find that the median descendant also has negative effects on economic development, lowering

a village's wealth rank by 0.6pp per year. While worse than non-dynasts, the median descendant does, however, appear to perform better than "marginal race" descendants.

Taken together, these estimates suggest that the RD estimates, which identify the effect of the marginal descendant, are "too negative". But even restricting attention to a less negatively selected sample — those who are in close races partly because of negative aggregate shocks to their party — descendants still deliver less economic development than non-dynasts.

4.3 Why Descendants Underperform: Evidence for Moral Hazard

Having established that descendants have negative effects on local economic development, we discuss the mechanisms behind descendant behaviour.

4.3.1 Moral Hazard: Descriptive facts

In this subsection, we provide evidence that moral hazard is a key reason why descendants underperform. We begin by outlining two descriptive facts consistent with moral hazard.

Descendants inherit votes Descendants appear to inherit significant political capital from their familial predecessors. We illustrate this by comparing the father-descendant correlation in vote shares against the correlation between a politician's own vote shares in different elections. As Figure 4a shows, the correlation between a politician's vote share in election t and her vote share in the same constituency in prior elections is 0.58. The intergenerational vote share correlation is 0.24, approximately 40% the size of the own-vote-share correlation. This suggests that a significant amount of political capital is indeed heritable.

Descendants have lower electoral returns to good performance Second, descendants appear to have lower electoral returns to performance. Figure 4b illustrates the relationship between next-period vote shares and in-office performance. Non-dynasts who perform better while in office receive substantially more votes in the next election. By contrast, the $t+1$ vote shares of descendants are only very weakly correlated with their in-office performance.

4.3.2 Empirical strategy: Constituency Boundary changes to identify Moral Hazard

Our model of dynastic politics identified both weak selection and moral hazard as key reasons why descendants might underperform. The underlying reason for both problems is the heritability of political

capital. The ideal experiment to isolate and quantify the effect of moral hazard would fix the descendant and identify a shock to her political capital in a particular election. In this section, we argue that constituency boundary changes offer such variation. Boundary changes affect the extent of overlap between a descendant's constituency and her father's former constituency. If some of the inherited political capital is local, this should affect the number of votes the descendant inherits and hence her incentives to perform while in office.

Institutional context The Indian Constitution stipulates a strict process for determining electoral boundaries, which gives legislators no de jure role and very little de facto power to influence decisions. Power to draw boundaries resides with the Delimitation Commission, a three-member body which consists of a retired Supreme Court judge, a sitting High Court Judge and the Chief Election Commissioner. Decisions made by the Delimitation Commission have the force of law, and must be implemented by the government. Constituency boundaries have changed thrice since India's independence in 1947. The changes occurred in 1963, 1976 and 2008. In this paper, we mainly exploit the 2008 boundary change, for two reasons. First, most dynastic descendants in our sample are children of politicians elected during the first few decades after India's independence, and thus most entered during and after the 1990s, as shown in Figure 12c. Hence, descendants in our sample were mostly unaffected by the 1963 and 1976 boundary changes. Second, the 2008 redistricting resulted in much greater changes to electoral boundaries than either of the earlier changes, because electoral boundaries were frozen by law in 1976 till the first Census of the new millenium. The current boundaries — effected in 2008 — will remain in place till after the 2031 census.

Work by Iyer and Reddy (2013) has found that incumbents, ministers and ruling party MPs generally do not benefit electorally from redistricting. Furthermore, we present evidence that villages that switch constituencies have similar characteristics to those that remain in the same constituency (A.5). We further discuss identification assumptions behind redistricting in Section 5.

Identifying variation Boundary changes affect the overlap between a descendant's constituency and her father's former constituency. Figure 5 illustrates our identifying variation using the case of Hamirpur constituency in the state of Himachal Pradesh. Hamirpur was represented by Prem Kumar Dhumal, a two-time Chief Minister of Himachal Pradesh, for 8 years in the 1980s and 1990s. The constituency was subsequently inherited by his son Anurag Thakur. During Thakur's first term, the extent of his constituency was exactly the same as his father's. After redistricting, however, he lost some areas in his constituency and gained new areas, which comprised "fresh voters" who were never represented by Thakur's father. We construct

a variable *Fraction Overlap with Founder's Constituency* which denotes the (spatial) fraction of a descendant's constituency that was previously represented by her father. Using this measure, Thakur's overlap fraction in his first term was 1 and reduced to 0.89 in his second term. We exploit this variation to test for moral hazard.

Specifically, we estimate

$$Y_{it} = \alpha_i + \beta \cdot Overlap\ fraction + \gamma Controls_{it} + \epsilon_{it}$$

We use two outcomes Y_{it}: (1) the vote share of politician i in election t and (ii) measures of effort that the politician exerts during electoral term t. α_i indicates a politician fixed effect. The coefficient of interest is β and the assumption required for identification is that changes to the overlap fraction are uncorrelated with factors that would affect in-office behaviour.

Results Table 4 presents the results. We first show that descendants benefit electorally when their constituency overlaps more with the (former) electoral district of their familial predecessor (usually father). Column 1 shows that the same dynastic descendant earns a 1.1pp higher vote share for every additional 10% overlap between his constituency and his father's constituency. The median descendant has 60% overlap with his father's old seat, so this results in a 6.6pp vote share advantage on average. Column 2 presents our test of moral hazard. The outcome variable is the share of local area development projects that are completed, which means that the project has been commissioned and that work has been completed by the implementing agency. We find that the same descendant is 0.14pp less likely to have completed projects for every 10% increase in overlap between her constituency and her father's former constituency. For the median descendant, inheriting votes therefore decreases the probability of a completed project by 0.84pp. Dynastic descendants are on average 2.4pp less likely to have a completed project. Hence, moral hazard explains approximately 40% of the performance gap between descendants and non-dynasts.

4.3.3 Alternative mechanisms: Adverse Selection

Our theory predicts that a second reason why descendants perform worse than non-dynasts is the weak selection of dynastic descendants. If descendants inherit votes from their predecessor, parties might have a lower quality threshold to nominate them as candidates. Moreover, if the dynastic founders controls the party, and there are private returns to public office (Fisman, Schulz and Vig 2014), then descendants may be selected even though they are worse than unconnected non-dynasts. While we do not have a definitive

test of the selection channel, we show two pieces of evidence that are consistent with it. First, we show that (conditional on the number of siblings) politicians with more brothers are less likely to have completed projects. Column 3 of Table 4 An additional brother increases the probability of a completed project by 0.4pp. This is consistent with the idea from the family firms literature that a wider selection pool allows for choosing more able managers. Second, we identify a group of descendants who are even more likely to be "chosen". Even though an incumbent may be stuck with lemon sons, she can induct competent sons-in-law into politics in order to propagate the dynasty. Column 4 of Table shows 4 that sons-in-law are 4.4pp significantly more likely to complete development projects than sons. This finding echoes empirical facts from the literature on family firms, where outside managers perform better than family managers (Bloom and Van Reenen 2007; Lemos and Scur 2018). This provides some evidence that weak selection partly explains why descendants perform worse than non-dynasts.

Other channels Appendix A considers other plausible channels that explain why descendants may underperform, including (i) dampened political competition, (ii) rent-seeking, (iii) name recognition and (iv) clientelism.

5 The Effect of Dynastic Founders on Development

The previous section presented evidence that dynastic descendants have negative effects on economic development. In this section, we identify the effects of dynastic founders.

5.1 Empirical strategy

Constituency boundary changes

Isolating founder effects is challenging because, as described in the previous section, most descendants inherit their parent's constituency. To identify founder effects, we study constituency boundary changes that cause some villages to be exposed to founders but not descendants, even when a son inherits his father's constituency. Our empirical strategy exploits the fact that some villages which were represented by the founder will have moved to a different constituency by the time the son enters politics.

Consider the following example which illustrates the identifying variation we exploit. Figure 6 is a map of Hamirpur constituency in the Indian state of Himachal Pradesh. Hamirpur was represented by Prem Kumar Dhumal (who was twice Chief Minister of Himachal Pradesh) between 1989 and 2007. The grey

lines denote the extent of Dhumal's constituency, which was inherited in 2009 by his son Anurag Thakur. The bright green lines indicate the present-day boundaries of Hamirpur constituency, which is the extent of Thakur's electoral district.

Notice how certain regions — such as the area shaded in red in Figure 6 and labelled "Founder" — are in the founder's former constituency but have been redistricted into a neighbouring constituency before the descendant enters politics. We compare these areas — that were represented by dynastic founders in the past — against villages in its present-day constituency that have always been represented by non-dynasts. To use Figure 6 as an illustration, we compare villages in the red area against villages in grey area. All are now in the same constituency, but villages in the red area were represented in the past by a founder. Specifically, we estimate

$$y_i = \alpha_{constituency} + \beta \cdot Years\ founder\ rule_i + \gamma X_i + \epsilon_i$$

where i denotes a village, y_i denotes poverty and public good outcomes of village i and $\alpha_{constituency}$ is a constituency fixed effect.

Validity of empirical strategy

It is important to check that there is no selection into redistricting. Table A.5 shows that in general redistricted villages have similar characteristics to changes that did not switch constituency due to redistricting. Nevertheless, it is possible that redistricting could have direct effects on development through severing voters' access to politicians or having "new" politicians who represent an area they are uninformed about. If these channels were at work, we should expect redistricting to affect development outcomes. To test this hypothesis, we estimate a placebo regression

$$y_i = \alpha_{constituency} + \beta \cdot Redistricted_i + \gamma X_i + \epsilon_i$$

where $Redistricted_i$ is a dummy indicating whether village i was redistricted during the 1963, 1976 or 2008 boundary change, X_i is a vector of village-level controls and $\alpha_{constituency}$ denotes a fixed effect for the present-day constituency. Figure 7 plots estimates for the coefficient β. The coefficient is a tightly estimated zero, indicating that redistricting does not appear to have a direct effect on development outcomes.

5.2 Main Results on Founder Effects

We now present results of representation by a dynastic founder on poverty and public good provision.

Poverty Figure 7b presents results on founder effects. Founders have broadly positive effects on earnings and asset ownership. As shown in table has5, an extra year of exposure to founders increases the share of households who (i) earn more than Rs 5000 ($\approx$ \$70) per month by 0.3pp, (ii) live in a brick house by 0.5pp, (iii) own a fridge by 0.1pp. These effects are all significant at the 5% level. The point estimates on owning a phone and vehicle are also positive but not significant at the 10% level. In sum, an additional year of exposure to founders raises a village's wealth percentile rank by 0.3pp; hence an additional standard deviation of founder rule raises a village's wealth rank by 1.5pp.

Public Good Provision Founders have similarly positive effects on public good provision. As Figure 7b shows, greater exposure to founders improves the availability of public goods along all five major categories. An additional year of being represented by a founder increases the availability of schools by 0.9pp, the availability of health centres by 0.3pp, and the availability of road and other transport connectivity infrastructure by 0.9pp. Overall, a village's public goods rank increases by 0.5pp for each additional year of founder rule. An additional standard deviation of founder rule thus raises a village's public goods percentile rank by 2.5pp.

5.3 Why Founders Outperform: Evidence for Bequest Motives

The results just outlined — that founders have positive effects on economic development — could be explained entirely by selection or luck. Consider the selection explanation. If exceptional politicians are both more likely to found a dynasty and perform better in office, we would find that dynastic founders are good for development. Alternatively, if politicians who experienced positive performance shocks — due to good agricultural or macroeconomic conditions — are more likely to found dynasties, we would also find that dynasties founders had positive economic effects.

In this section we argue that the incentive to establish a dynasty encourages politicians to exert more effort and perform better while in office. Our theory predicted that if women face greater barriers to entering politics, politicians with sons would be more likely to establish dynasties and have bequest motives. We begin by presenting empirical evidence that politicians with a son are indeed more likely to establish dynasties, and then compare the in-office behaviour of politicians with sons against that of politicians with

only daughters.

5.3.1 Empirical strategy: gender composition of politicians' children as shock to bequest motive

Women face significant barriers to entering politics in India: they comprise only 9% of candidates in state and national assembly elections and only 6% of winners. This section documents empirically that politicians with a son are similar to politicians with only daughters, but are twice as likely to establish a dynasty.

We estimate the following regression:

$$Y_i = \alpha_{\#children} + \beta \cdot Has\,son_i + \gamma X_i + \epsilon_i \tag{5}$$

where Y_i denote the performance of politician i, $Has\,son_i$ is a dummy indicating whether politician i has a son, $\alpha_{\#children}$ is a fixed effect for the number of children i has, and X_i is a vector of individual-level controls.

Covariate balance between politicians with a son and those with only daughters We first estimate equation 5 using demographic and political characteristics of politicians as the outcome variable. As Panel A of Figure 8 shows, politicians with a son are similar to those with only daughters on a wide array of personal and political characteristics, including age, education, occupation, and proxies for social class.

Prior work has found in the US context that the gender composition of a politician's children affect political preferences on "women's" issues like abortion (Washington 2008). Using rich information on politicians' legislative committee positions, affiliations with organisations, and personal reflections on the issues they care most about, we are able to construct (non-exhaustive) proxies of political preferences. Panel B of Figure 8 demonstrates covariate balance on a host of political traits, including entry route into politics[13], measures of political strength[14], political affiliation and issues of focus while in office[15].

Effect of Gender Composition of Children on Dynasty Formation Figure 10 illustrates that politicians with a son are more than twice as likely to establish a dynasty compared to politicians with only daughters.

[13] The variables used are age at entry, prior involvement in local politics, India's independence movement, drafting India's constitution, and participation in the Rashtriya Swayamsevak Sangh, a right-wing Hindu nationalist organisation.

[14] The variables used are vote share and win margin in 1st race, number of terms served in Parliament, whether the politician was a minister or held an important party position

[15] In particular, we construct dummies indicate whether a politician is involved with organisations, served on committees, or was part of delegations focused on farmers' issues, public health, women's issues, children's issues, empowerment of low caste groups or preservation of communal harmony — or listed any of these as core political interests on her profile.

This relationship is driven by older cohorts of politicians whose sons are now old enough to run for office, as Figure shows. Table 6 presents these results in regression table form. Column 1 shows that politicians with a son are about 1.8pp more likely to establish a dynasty. The baseline probability of founding a dynasty is 1.5%, so having a son more than doubles a politician's likelihood of doing so. In column 2, we control for measures of political strength — vote share in the 1st election, number of terms served in parliament, a dummy for being a minister — all of which predict founding a dynasty, but β retains its significance and its magnitude increases slightly to 2.3pp. In columns 6 and 7, we show that having a son does not predict founding a dynasty for politicians in parties that have strong norms against dynasties, such as the collection of Communist parties in India (Chhibber 2013; Chandra 2016).

5.3.2 Results

We present reduced-form evidence that politicians with a son exert greater effort and are assessed by voters to perform better in office. Table 7 presents 4 results. First, we show results on completion rates for projects implemented under the Member of Parliament Local Area Development Scheme (MPLADS). MPs are given approximately $1M to spend on local development projects in their constituency and may use these funds in a discretionary way. However, these projects are ultimately implemented by the relevant department of the local bureaucracy, and MPs must often use the clout of their office to follow up with bureaucrats and ensure projects are completed. Column 1 shows that politicians with a son are 2pp more likely to complete local development projects, even conditional on project type and size and the same implementing agency. This means, for example, that when the Executive Engineer of the Rural Water Supply and Sanitation Division of Nandyal district builds a handpump costing $1800 is on average 2pp more likely (on a base on 83%) to complete the project.

Second, we show results on attendance rates at meetings with local bureaucrats. Under the DISHA scheme, MPs are supposed to chair a quarterly meeting with a District Development Coordination and Monitoring Committee comprised of local bureaucrats. While there are other ways that politicians can sanction local bureaucrats (eg. using their clout with ministers to transfer uncooperative bureaucrats), the DISHA meeting is the main formal mechanism for politicians to hold bureacurats accountable for not completing agreed development objectives. Nevertheless, this meeting is held only about 39% of the time. However, as Column 2 shows, MPs with a son are 6.2pp more likely to conduct this quarterly meeting.

Bequest motives need not encourage incumbents to deliver public goods. They may instead devote efforts to distributing private rents to voters to secure their loyalty. Indeed, nearly 33% of voters in our

sample report either receiving cash in exchange for their vote or knowing someone who did receive such a transfer. Vote buying rates are significantly higher (60%) for voters who share the caste or religion of the incumbent. However, as Column 3 shows, we find no evidence that politicians with a son engage more in vote buying.

Overall, voters assess politicians with a son to perform about 0.10 units (or 4 percentiles) higher in office. We interpret this evidence as consistent with bequest motives encouraging (would-be) founders to perform well in office.

6 Overall effect of dynastic politics

The previous two sections showed that descendants have negative effects on development, while the incentive to establish a dynasty has positive development effects. In this section, we estimate the overall development impact of a dynastic political equilibrium.

6.1 Empirical strategy: exposure to MPs with sons as IV for dynastic political equilibrium

To identify the overall effects of dynastic politics, we need variation that mimics that ideal experiment of moving from a world where dynasties are not possible (the non-dynastic equilibrium) to a world where dynasties are possible (the dynastic equilibrium). In other words, we need an exogenous shock to the probability that a political dynasty arises in a place. In this section, we argue that the gender composition of past incumbents' children provides such variation. Section 5.3.1 showed that politicians with a son are similar to politicians with only daughters, but are twice as likely to establish a dynasty. Moreover, Section 4.3.2 showed that most descendants run for office in their father's seat. We now provide empirical support for an intuitive implication of this: places represented in the past by MPs who had a son are more exposed to both founders and descendants.

6.1.1 Validity of empirical strategy

Recall that we defined exposure to dynastic rule as in 1: the length of time a village was represented in parliament by either a dynastic founder or descendant. Formally, we estimate the first stage equation

$$Years\ dynastic\ rule_i = \alpha_{district} + \beta \cdot Years\ represented\ by\ MP\ with\ a\ son_i + \gamma X_i + \epsilon_i$$

First stage As 10b shows, places with longer exposure to an MP with a son have had longer dynastic rule. An additional year being represented by an MP with a son increases the length of dynastic rule by 0.06 years, which is approximately 1.6% of the average. The first stage is strong, with a F-stat of 14. An additional standard deviation of representation by an MP with a son therefore increases a village's exposure to dynastic rule by 0.66 years, or about 17% of the average.

6.1.2 Exogeneity

The key condition for validity is that greater exposure to MPs with a son only affects a village's development outcomes through the channel of greater exposure to dynastic rule. This assumption could be violated in 3 main ways: first, politicians who have a son may be systematically different from those who have only daughters. We argued against this critique in the previous section. Second, places that elect politicians with a son may be systematically different from places that elect politicians with only daughters; third, the gender composition of a leader's children may directly affect political behaviour through channels other than dynasty (eg. having only daughters may make a politician more interested in women's problems). We deal with the latter two concerns in turn.

Second, figure 10a shows that places with greater exposure to MPs with a son appear similar to villages with less exposure to MPs with a son on a large number of control variables capturing demographic, pre-period development levels and growth trends, geographical features, exposure to historical events like British rule and the Partition and political variables. Balance on this wide variety of characteristics alleviates concerns about potential confounds such as that conservative or poorer places elect MPs with a son.

Finally, in addition to the extensive balance presented here, our strongest argument for the exclusion restriction is the time-varying pattern of reduced form results that we find, which are consistent with the lifecycle of a dynasty but inconsistent with the most obvious confounding factors such as son preference or changes in political preferences due to having a son. We discuss this further in the reversal of fortune section.

6.2 Results: Overall Effect of a Dynastic Political Equilibrium

6.2.1 Earnings and Asset ownership

This section presents our main baseline result on the long-run impact of dynastic rule. We estimate IV regressions of the form

$$y_i = \alpha + \beta Years\ dynastic\ rule_i + District\ FE + \gamma X_i + \epsilon_i$$

where we instrument for years of dynastic rule using years ruled by an MP with a son. Standard errors are clustered at the subdistrict level. All regressions include controls for the size, population, gender ratio, age structure and caste distribution of each village. Table A.6 presents results from the OLS regression. There is no correlation between dynastic rule and our measures of poverty. The coefficient on years of dynastic rule is never significant and their sign also shows no consistent pattern. By contrast, the IV results, presented in Figure 11 and table 8, show a clear pattern. All the coefficients are negative and significant at the 15% level. An additional year of dynastic rule reduces the share of households who earn over Rs 5000 per month (~US$80) by 0.5pp. An additional standard deviation of dynastic rule (7.8 years) thus increases this measure of poverty by about 4pp. Similarly, an additional standard deviation of dynastic rule lowers the probability of living in a brick house by 14pp and reduces the probability of owning a fridge, phone and vehicle by 2.5pp, 7.5pp and 7.4pp respectively. On the whole, an additional sd of dynastic rule lowers a village's wealth percentile rank by approximately 12 points. Comparing the OLS and the IV estimates, it appears that the OLS estimates are upward biased, which suggests that dynasties are more likely to be found in richer places. This might be because politics is a relatively more attractive career for a descendant in a more developed place.

6.2.2 Public good provision

This section provides evidence that public good provision is an important channel through which dynastic politicians affect economic development. Table 8 summarises the results across public goods categories. The coefficient on years dynastic rule is negative for all categories of public goods. An additional year of dynastic rule lowers the overall public goods percentile rank of a village by 1.1 points, implying that an additional standard deviation of dynastic rule worsens public good provision by about 8 points. By contrast, the OLS estimates are mostly positive. This again suggests upward bias of the OLS coefficients. Detailed results for each category can be found in figures A.13-A.13 in the appendix.

6.3 Reversal of fortune

One of the most striking patterns we find is a reversal of fortune development pattern induced by the lifecycle of a political dynasty. As Figure 12 shows, exposure to MPs with a son actually has positive development effects while the first generation of politicians is in office. This could be rationalised by bequest motives,

as described in Section 5.3. But these places fall severely behind when the second generation of politician enter politics. Most descendants run for office in their father's constituency, so villages represented by an MP with a son are both more likely to benefit from bequest-motivated founders and to experience the negative consequences of descendant rule. As a result, the effects of representation by an MP with a son are particularly negative during the period 1989-2009, which as Figure 12c shows, is when most descendants enter politics. The overall effect of a dynastic political equilibrium is negative and results in lower earnings, asset ownership and public good provision.

To further support our interpretation that these results capture the effects of dynasties rather than other channels through which having a son affects development, we show that Communist strongholds display no time-varying patterns. The Communist parties of India have strong norms against dynasties, so we should expect that first generation officeholders have less bequest motives (hence there are no initial positive effects of exposure to MPs with a son) and that descendants of former MPs are less likely to enter (hence there are no negative effects of exposure to MPs with a son).

6.4 Discussion of results

We estimated descendant effects using a close elections regression discontinuity design, and found that an additional year of descendant rule lowered a village's wealth rank by 2.6pp. We estimated founder effects using constituency boundary changes, and found that an additional year of founder rule increased a village's wealth rank by 0.3pp. Using the sons instrument, in this section, we estimated the overall effects of a dynastic political equilibrium, and found that an additional year of exposure to dynastic rule lowers a village's wealth rank by 1.6pp. It is reassuring that the separate estimates of the founder and descendants effect are in the same ballpark region as the overall effect. It is also to be expected that the close elections RD design results in negative estimates that are larger than they would be for the average descendant.

7 Conclusion

Political dynasties remain ubiquitous in democratic societies, even though many countries democratised to end hereditary rule. This paper studies how dynastic politics affects economic development in India. To identify the overall effects of dynastic politics, we exploit the fact that politicians with a son are twice as likely to establish a dynasty, reflecting the barriers women face when entering politics in India. Using this variation, we find that a dynastic political environment worsens poverty and public good provision.

Villages with 1 standard deviation greater exposure to dynastic politicians since India's independence are 7pp poorer today. But these overall long-run effects mask the distinctive "reversal of fortune" development pattern that dynasties induce. Villages represented by MPs with a son actually develop faster while the first generation of politicians is in power. This is because the incentive to establish a dynasty encourages politicians to exert more effort and perform better in office. Politicians with a son are more likely to complete local development projects, and attend meetings with local bureaucrats to take stock of the implementation of government programs. Consistent with this, using an identification strategy based on constituency boundary changes, we find that founders of dynasties have positive effects on the development of their constituencies.

The negative effects of dynasties arise because the descendants of first-generation politicians enter politics and inherit their parents' constituencies. Using a close elections regression discontinuity design, we find that dynastic descendants have large negative effects on economic development, with an additional standard deviation of exposure to (marginal) descendants increasing poverty by 12pp. We develop a method to improve the external validity of our RD estimates, based on the idea that aggregate swing toward a descendant's party is a shock to the running variable. Though the average descendant performs better than a marginal descendant in a close race, they still perform worse than comparable non-dynasts. Changes to constituency boundaries affect the overlap between a descendant's constituency and her father's former constituency, and therefore provide a shock to the number of votes a descendant inherits each election. Using this variation, we show that the same descendant shirks more — completing fewer local development projects — when she inherits more votes. Moral hazard explains about 40% of the performance gap between descendants and non-dynasts.

We develop a simple theory of dynastic politics to explain these empirical facts. The key element of our model is that both human and political capital are heritable. This creates incentives for founders to perform well and signal to voters that their family is competent. But it also allows a descendant to inherit electoral advantages that her parent has built up, and persist in power even when she underperforms.

Our results imply that heritability weakens the ability of elections to select talented leaders and discipline them while in office. But a limitation of our paper is that we do not unpack the underlying reasons why so much political capital is heritable. Moreover, while in our context bequest motives appear to encourage parents to make socially useful investments (ie. delivering public goods that voters value), it is also possible that bequest concerns cause parents to invest in socially useless investments like building up their political capital. Understanding the heritable sources of political power and the conditions under which

bequest motives have positive effects will help in recommending policy tools to discipline dynasties and perhaps even harness dynastic incentives for good.

This paper focused on dynasties in electoral politics, which is an unusual and exceptionally dynastic occupation. But most other elite occupations are also highly dynastic. Having a doctor, lawyer or economist father boosts one's odds of entering these occupations by nearly 50 times. It would be interesting to know whether the mechanisms we posit — that both ability and private occupational advantages are heritable — also apply in other occupations.

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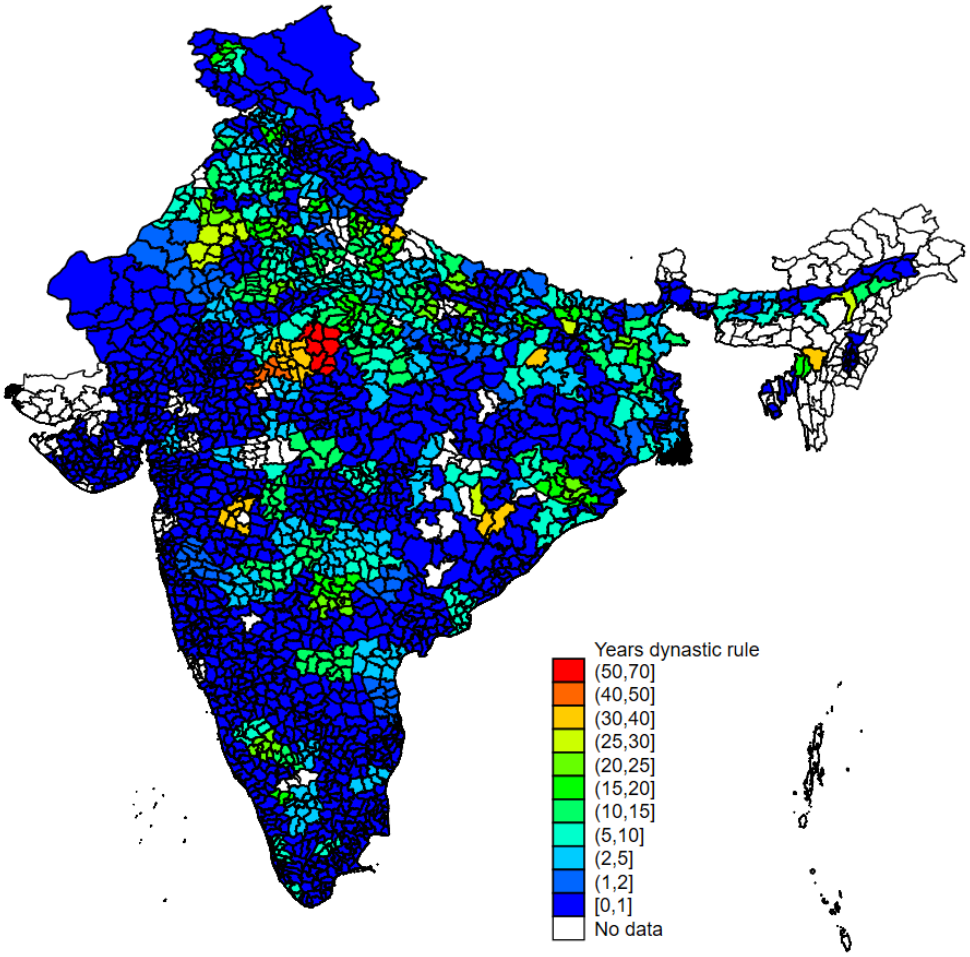
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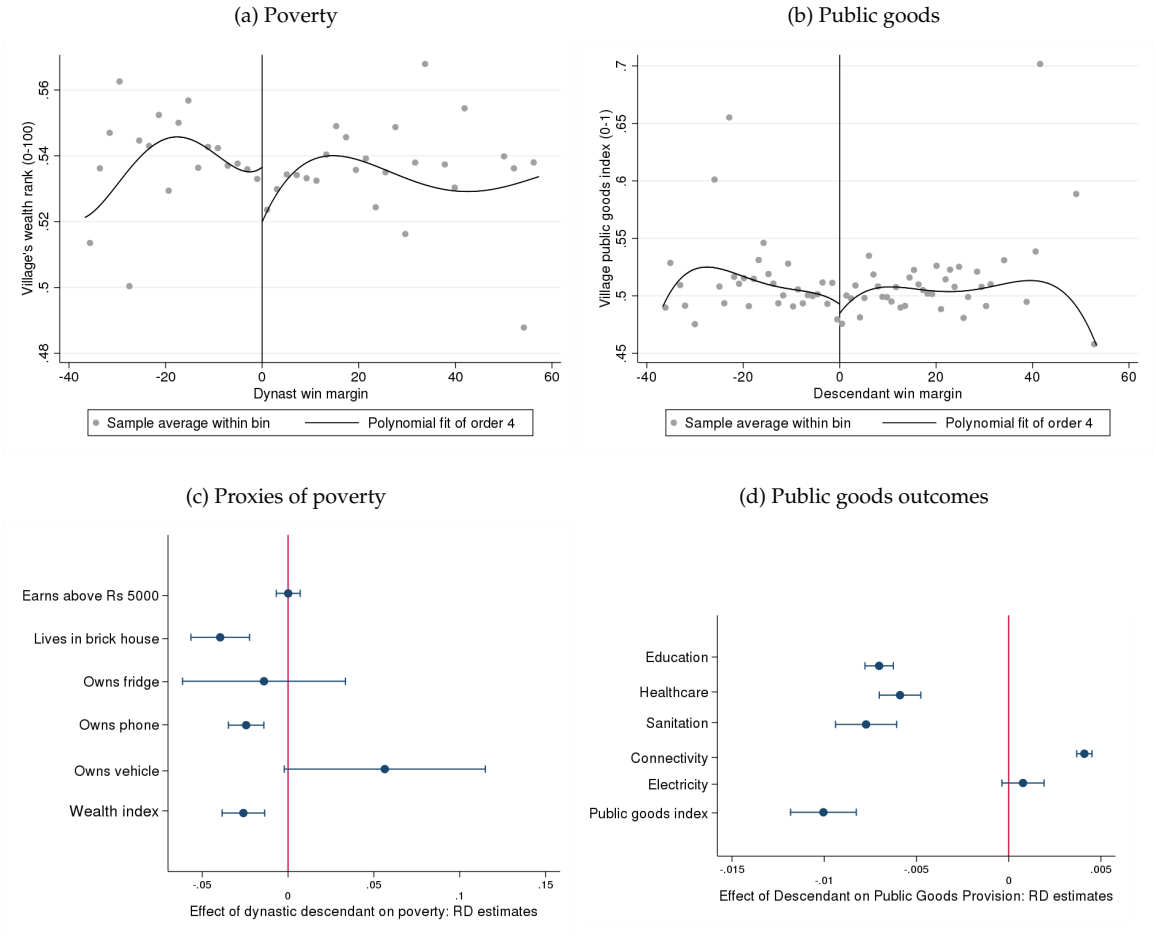
8 Figures

Figure 1: **Spatial variation in dynastic rule**



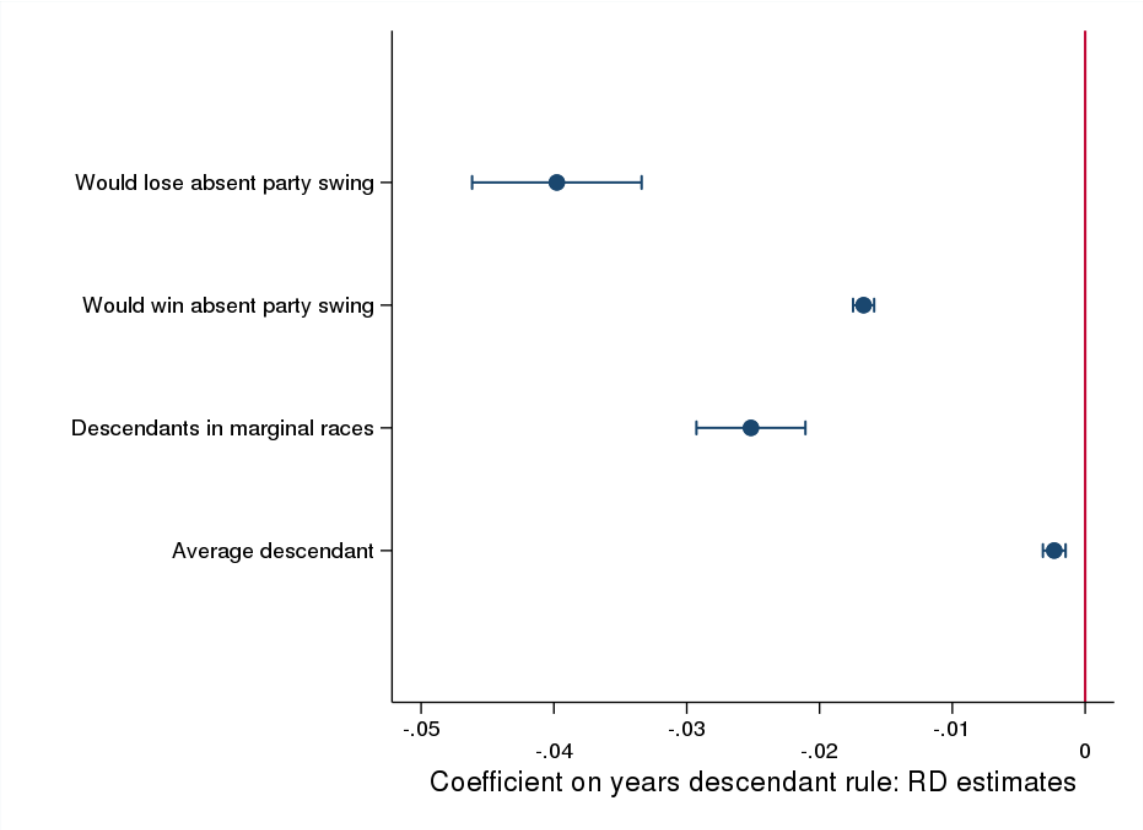
This figure depicts spatial variation in exposure to dynastic rule across India. Each cell is a subdistrict, and $Years\ dynastic\ rule_i$ equals the number of years subdistrict i has been represented by a dynastic founder or a dynastic descendant. A dynastic founder is a politician whose relative (typically child) subsequently ran for office. A dynastic descendant is a politician whose relative (typically parent) held political office. The map shows that a significant fraction of subdistricts (just over 35%) have experienced some dynastic rule since independence in 1947. Conditional on experiencing some dynastic rule, the average length is 17 years. Each parliamentary constituency contains approximately 10 subdistricts, which explains some of the spatial clustering in the map.

Figure 2: **Descendant effects identified using close elections RD design**



This figure presents results from a regression discontinuity design specification. We restrict attention to elections where the top two candidates are a dynastic descendant and a non-dynast (or vice versa). The running variable is *Descendant win margin*, which is defined as the vote share of the dynastic descendant minus the vote share of non-dynast. The outcomes in Panels A and C are measures of poverty. The key outcome variable is *Wealth index*, which is based on data from the Socioeconomic and Caste Census. The undelrying variables used to construct the index are: (i) *Earns > Rs 5k*: the share of households earning over Rs 5000 (≈US$70) per month, (ii) *Brick house*: the share of households in a village living in a structure with at least a brick or concrete wall and roof, (iii) *Fridge*, *Phone* and *Vehicle*: the share of households in a village who own these assets. We take the pricnipal component of these variables and assign villages a percentile rank (between 0 and 1) based on their index score. Data on village demographics, location and public good availability come from the Census of India 2001. *Public goods rank* is a village's percentile rank based on public good availability. We construct a public goods index by (i) constructing dummy variables indicating availability of public goods for five different categories, namely education, health, sanitation, communications and electricity, and (ii) taking the principal component of the 5 category indexes. Each village's public goods rank (0-1) is based on its public goods index score. All regressions include district fixed effects, and controls for the share of Scheduled Caste, Scheduled Tribe, General caste and tribal households, the total male and female population, and the fraction of adults. Standard errors are clustered at the constituency level. Dots represent the local average of the outcome variable, calculated within 1 percentage point bins of the running variable. Continuous lines are a 4th order polynomial fit.

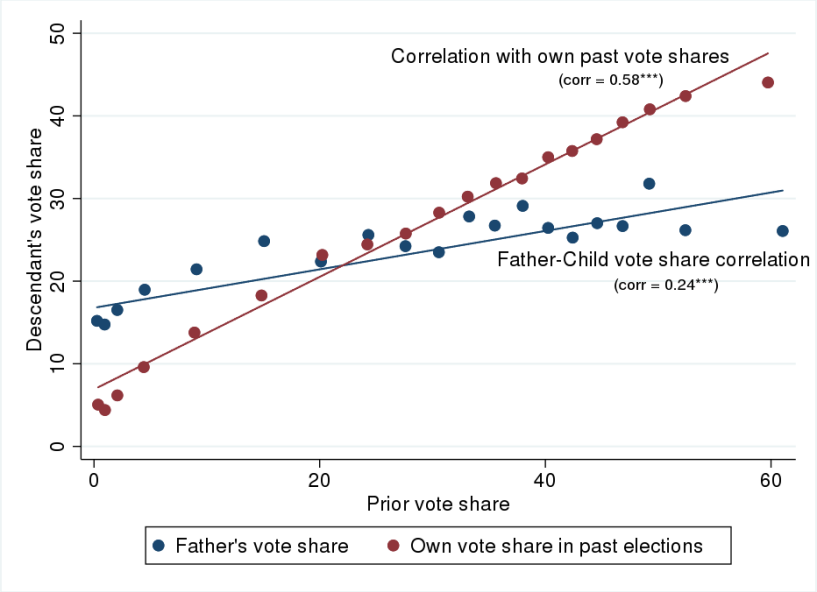
Figure 3: **Descendant effects — External validity of RD estimates**



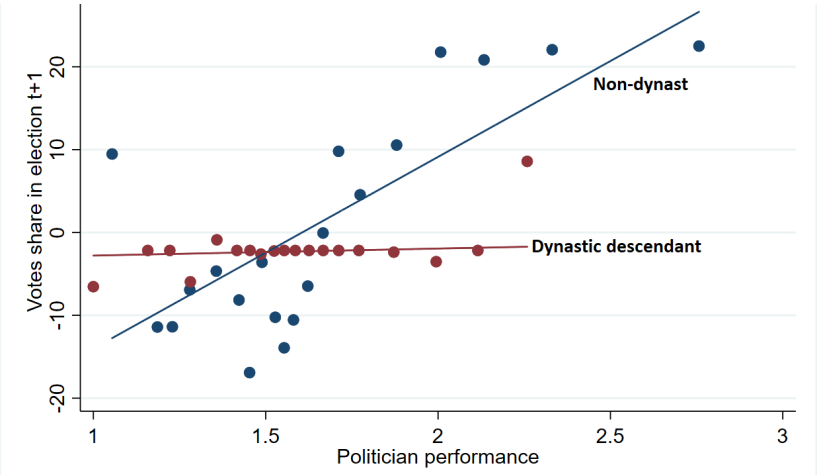
This figure presents results from our baseline regression discontinuity design specification (described in 2) restricted to specific subsamples of descendants. As in the baseline specification, we restrict attention to elections where the top two candidates are a dynastic descendant and a non-dynast. We then compare villages in constituencies where a descendant narrowly wins to villages in constituencies where a descendant narrowly loses. We estimate our baseline specification on four subsamples, based on 4. *Would lose absent party swing* restricts the sample to elections where the descendant would have lost in the absence of aggregate party swing. *Would win absent party swing* restricts the sample to elections where the descendants would have won absent party-wide shocks to her vote share. *Descendants in marginal races* are the baseline sample and comprise all descendants in close races. *Average descendant* restricts the sample to descendants who, in the absence of party swing, would have achieved a win margin close to that of the average descendant.
The running variable is *Descendant win margin*, which is defined as the vote share of the dynastic descendant minus the vote share of non-dynast. The outcome variable is *Wealth index*, which is constructed using measures of poverty from the Socioeconomic and Caste Census. The variables used to construct the index are: (i) *Earns > Rs 5k*: the share of households earning over Rs 5000 (≈US$70) per month, (ii) *Brick house*: the share of households in a village living in a structure with at least a brick or concrete wall and roof, (iii) *Fridge, Phone* and *Vehicle*: the share of households in a village who own these assets. We take the pricnipal component of these variables and assign villages a percentile rank (between 0 and 1) based on their index score.
All regressions include district fixed effects, and controls for the share of Scheduled Caste, Scheduled Tribe, General caste and tribal households, the total male and female population, and the fraction of adults. Standard errors are clustered at the constituency level.

Figure 4: **Descendants inherit votes, reducing performance incentives**

(a) Descendants inherit political capital



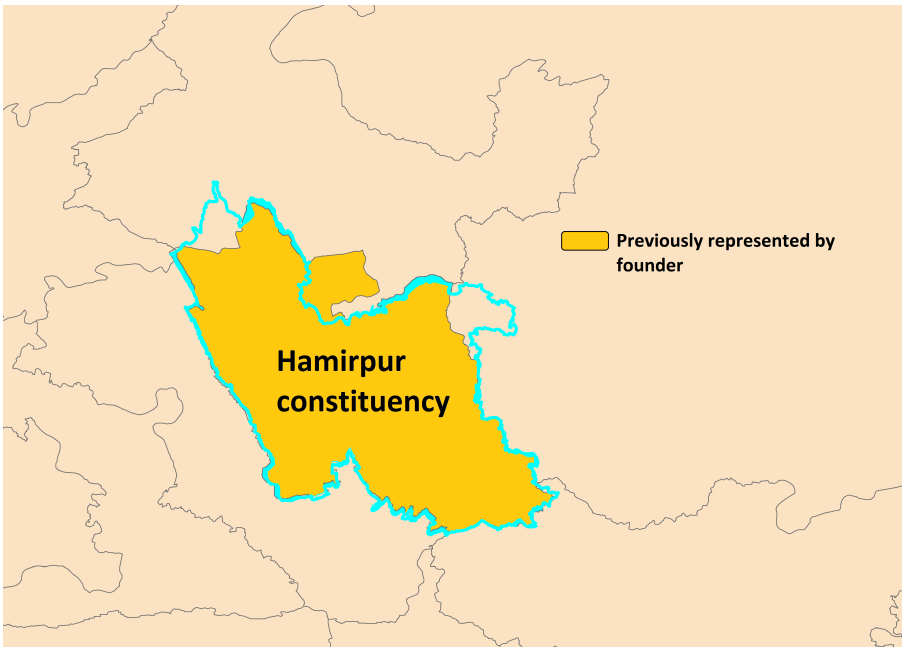
(b) Descendants have lower electoral returns to in-office performance



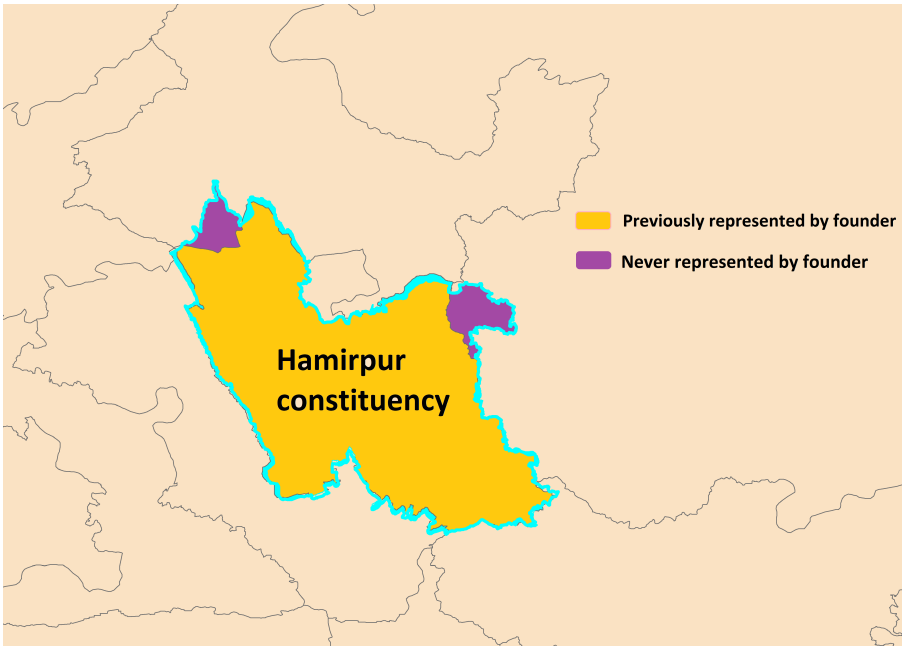
This figure presents descriptive facts on the electoral performance of dynastic descendants. Panel A presents a plot of a descendant's vote share against (i) her own vote shares in the same constituency in prior elections (plotted in red); and (ii) her father's vote share (plotted in blue). Panel B presents a plot illustrating the electoral returns to in-office performance. The y-variable is the vote share a politician receives in the next election, while the x-variable is a measure of in-office performance based on subjective assessments from voters. *Politician Performance* is measured using the Association for Democratic Reforms' survey of voter assessments. Voters are asked for each of 30 issues, how important the issue is to them (scale 1-3) and how well their Member of Parliament performed on it (scale 1-3). We construct a performance rating that each voter assigns to her politician using the weighted average of individual category scores, and the importance level as weights. A politician's overall performance score is the average of performance scores of all (approximately 500) voters surveyed in each constituency. Vote shares of politicians who do not recontest are assigned missing values. We plot this relationship separately for dynastic descendants and non-dynasts.

Figure 5: **Using Constituency Boundary changes to test for moral hazard**

(a) Before redistricting

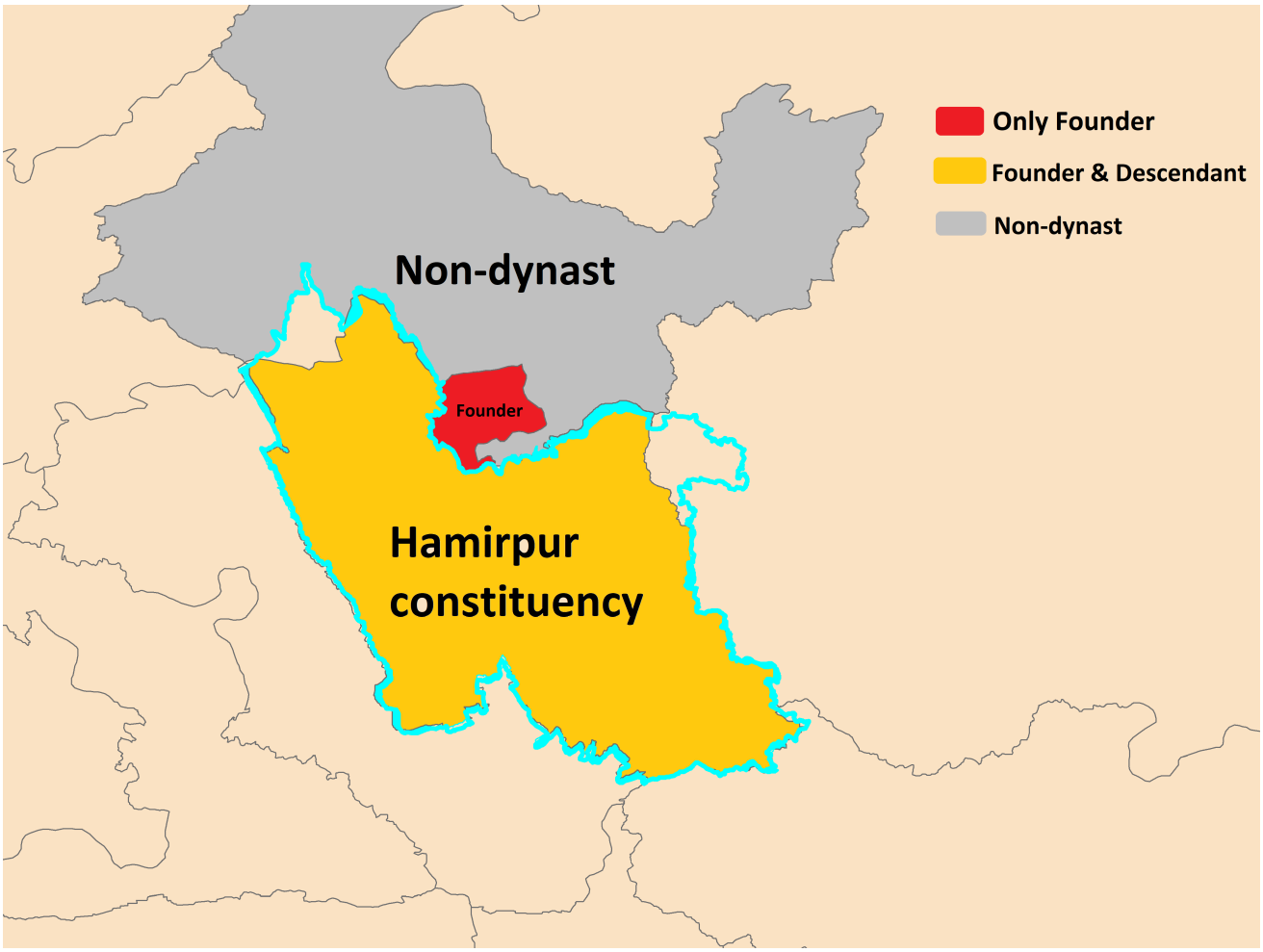


(b) After redistricting



This figure illustrates how constituency boundary changes result in shocks to a descendant's electoral inheritance. The map shows the parliamentary constituency of Hamirpur in the state of Himachal Pradesh in north India. Hamirpur was represented in Parliament three times for a total of 12 years by Prem Kumar Dhumal in the 1990s and 2000s. It was inherited by Dhumal's son Anurag Thakur and he is the current Member of Parliament. The grey lines illustrate the pre-2008 electoral boundary, while the blue lines illustrate the post-2008 electoral boundary. As shown in Panel A, before redistricting the extent of (the son) Thakur's constituency was exactly the same as his father's. After redistricting, as Panel B shows, Thakur's constituency includes the purple areas, which comprise "new" voters who were never previously been represented by his father. We construct the variable *% Overlap with Founder's Constituency*, which measures the (spatial) share of the descendant's constituency that was previously represented by his father. Before redistricting, *% Overlap* for Hamirpur = 100%. After redistricting, *% Overlap* for Hamirpur = 89%.

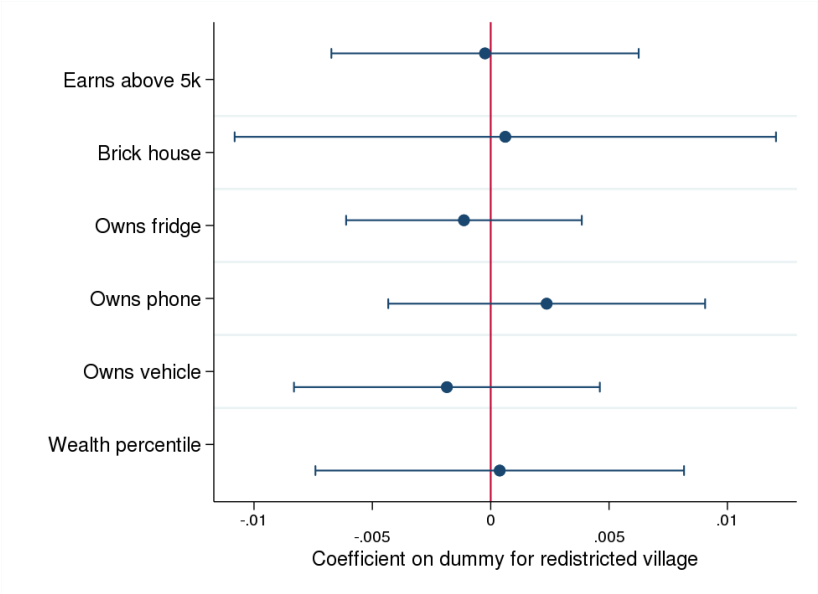
Figure 6: **Identifying Founder Effects using constituency boundary changes: the example of Hamirpur**



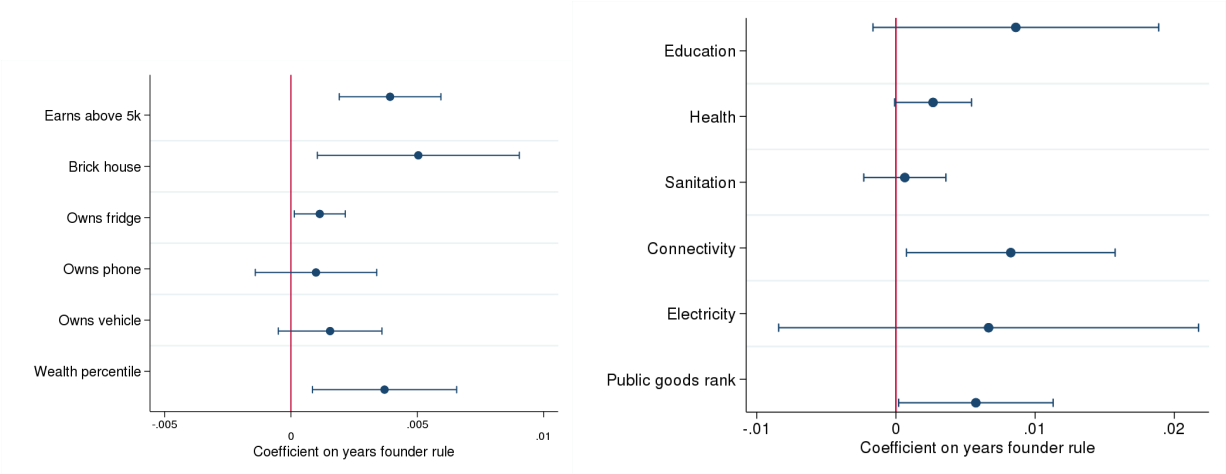
This figure illustrates how constituency boundary changes result in variation in exposure to dynastic founders. The map shows the parliamentary constituency of Hamirpur in the state of Himachal Pradesh in north India. Hamirpur was represented in Parliament by Prem Kumar Dhumal between 1989 and 2007. It has since been represented by Dhumal's son Anurag Thakur between 2009 to the present. The grey lines illustrate the pre-2008 electoral boundary, while the blue lines illustrate the post-2008 electoral boundary. The red area labelled *Founder* is in Hamirpur constituency under the old boundaries but is in the neighbouring constituency under the new boundaries. Hence, it only experienced the father Prem Kumar Dhumal. By contrast, the golden area labelled *Hamirpur constituency* has been represented by both father and son. The neighbouring constituency, shaded in grey, has always been represented by non-dynastic politicians. To isolate founder effects, we compare development outcomes of villages in the *Founder* area against development outcomes of villages in the *Non-dynast* area. Both sets of villages are currently in the same constituency but had differential prior exposure to a dynastic founder.

Figure 7: **Founders of Political Dynasties have positive effects on economic development**

(a) Placebo effect of redistricting

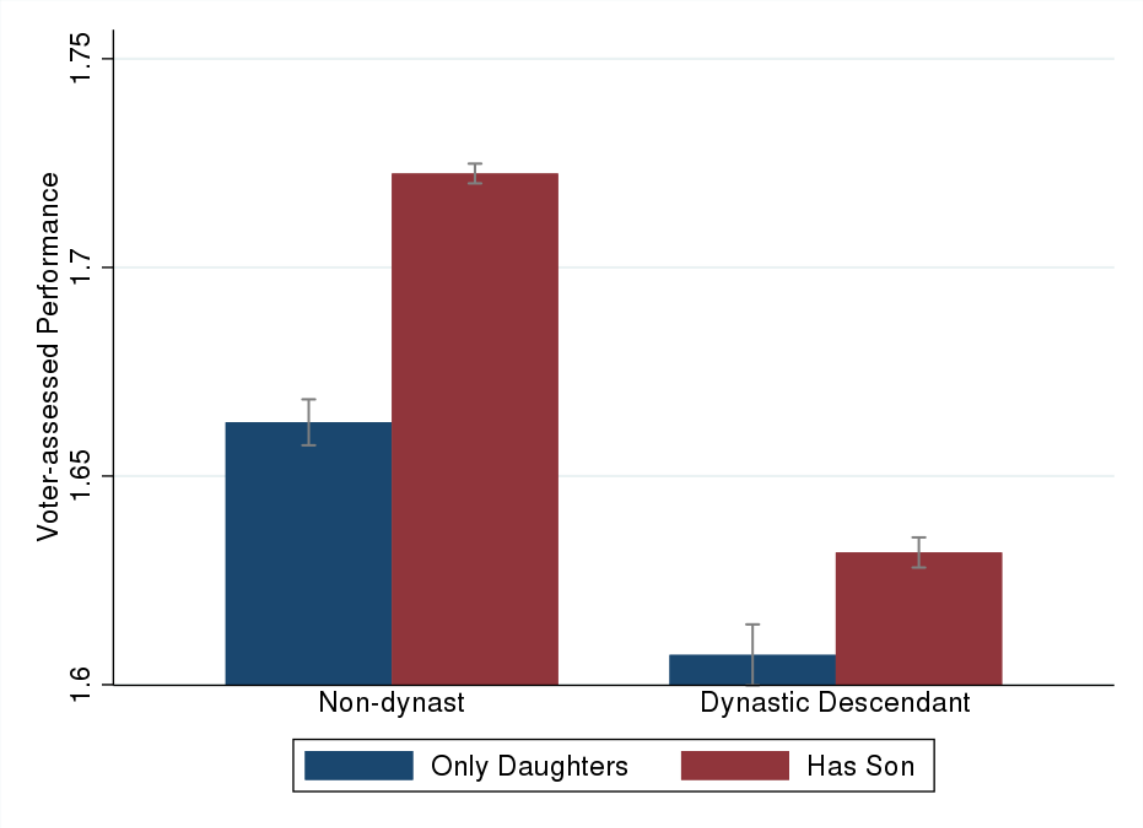


(b) Development effect of past exposure to Founder



This figure presents results on the economic effects of dynastic founders, identified using changes to constituency boundaries. Panel A presents estimates from a placebo regression. The graph shows estimates of β from the equation $y_i = \alpha + \beta \cdot Redistricted_i + Current\ constFE + Controls_i + \epsilon_i$. The outcome variable is a village's wealth percentile, as defined in note 2. *Current Constituency FE* denotes fixed effects for present-day constituencies, indicating that we are comparing development outcomes in villages within a constituency. *Redistricted* is a dummy indicating whether village i moved constituency when boundaries were redrawn. Panel B presents estimates of founder effects. The graph shows estimates of β from the equation $y_i = \alpha + \beta \cdot Years\ founder\ rule_i + Current\ constFE + Controls_i + \epsilon_i$. *Years founder rule* is the key independent variable and Data on poverty measures comes from the Socioeconomic and Caste Census and information on constituency boundaries comes from MLInfoMap. *Wealth percentile* is constructed using measures of poverty from the Socioeconomic and Caste Census. The variables used to construct the index are: (i) *Earns > Rs 5k*: the share of households earning over Rs 5000 (≈US$70) per month, (ii) *Brick house*: the share of households in a village living in a structure with at least a brick or concrete wall and roof, (iii) *Fridge, Phone* and *Vehicle*: the share of households in a village who own these assets. We take the pricnipal component of these variables and assign villages a percentile rank (between 0 and 1) based on their index score. *Public goods rank* is a village's percentile rank based on public good availability. We construct a public goods index by (i) constructing dummy variables indicating availability of public goods for five different categories, namely education, health, sanitation, communications and electricity, and (ii) taking the principal component of the 5 category indexes. Each village's public goods rank (0-1) is based on its public goods index score. All regressions include controls for the share of Scheduled Caste, Scheduled Tribe, General caste and tribal households, the total male and female population, and the fraction of adults. Standard errors are clustered at the constituency level.

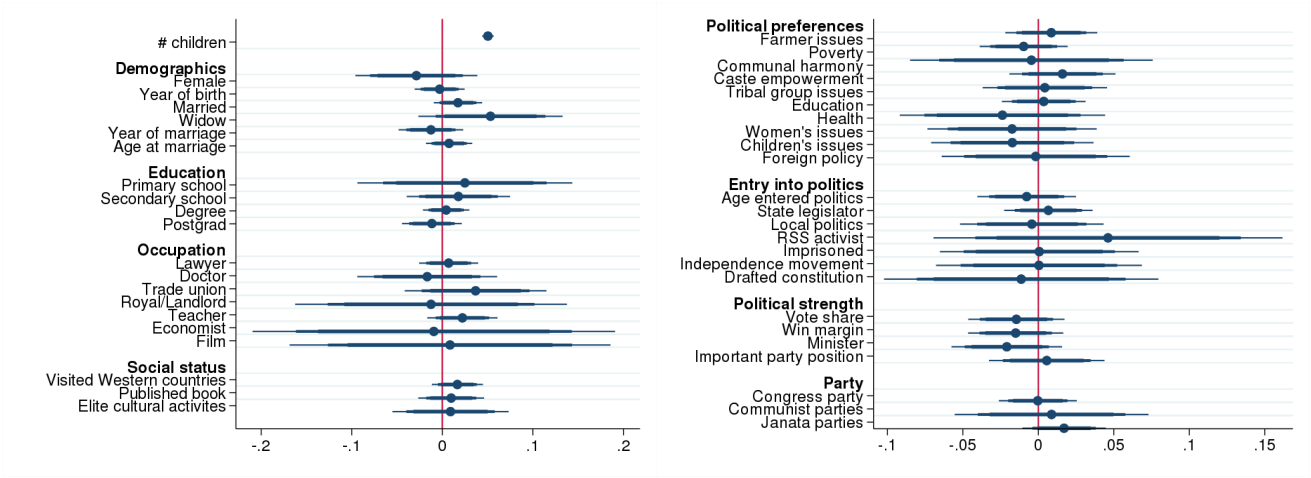
Figure 9: **Bequest motives improve performance of both non-dynasts and descendants**



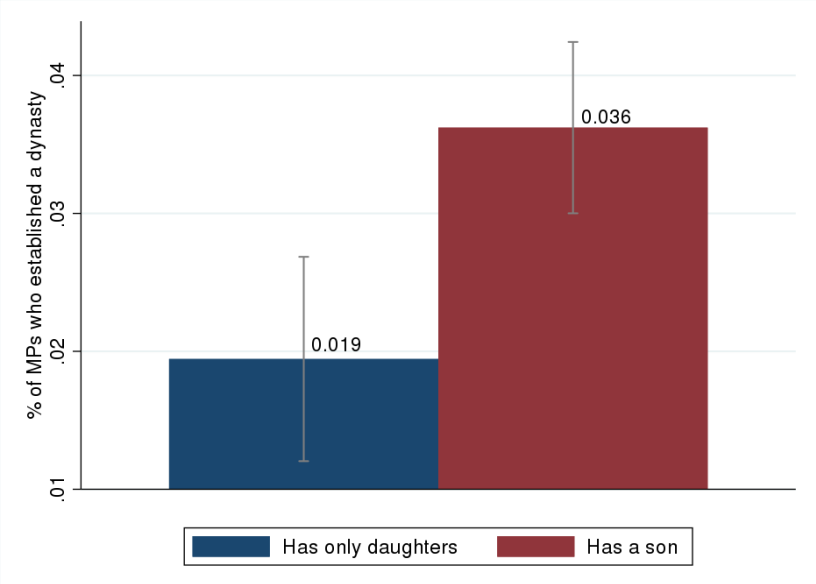
This figure plots the performance of different groups of politicians. The y-axis shows voter assessments of politician performance, using data from a survey of voters implemented by the Association for Democratic Reform, an Indian NGO. Voters rate their MP's performance on 30 issues: they are asked to rate, on a scale of 1-3, how important the issue is to them and how well their MP performed on it. We construct a weighted average performance score that each voter assigns to her MP. Each politician's overall performance score is the average score given by voters in her constituency. We plot the voter-assessed performance for four categories of politicians — non-dynasts with only daughters, non-dynasts who have a son, dynastic descendants with only daughters and dynastic descendants who have a son.

Figure 8: **Gender composition of politicians' children is shock to bequest motive**

(c) Politicians with a son are similar to politicians with only daughters



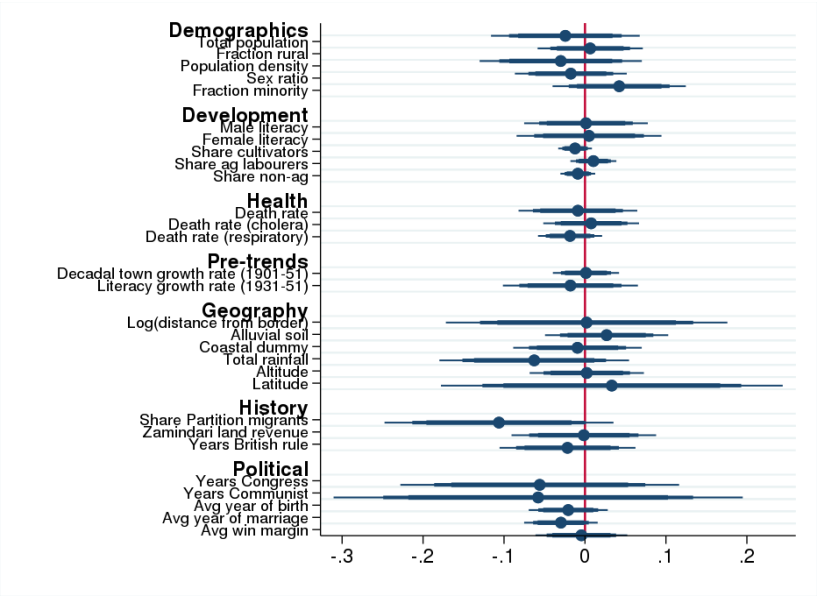
(d) Politicians with a son are twice as likely to found a dynasty



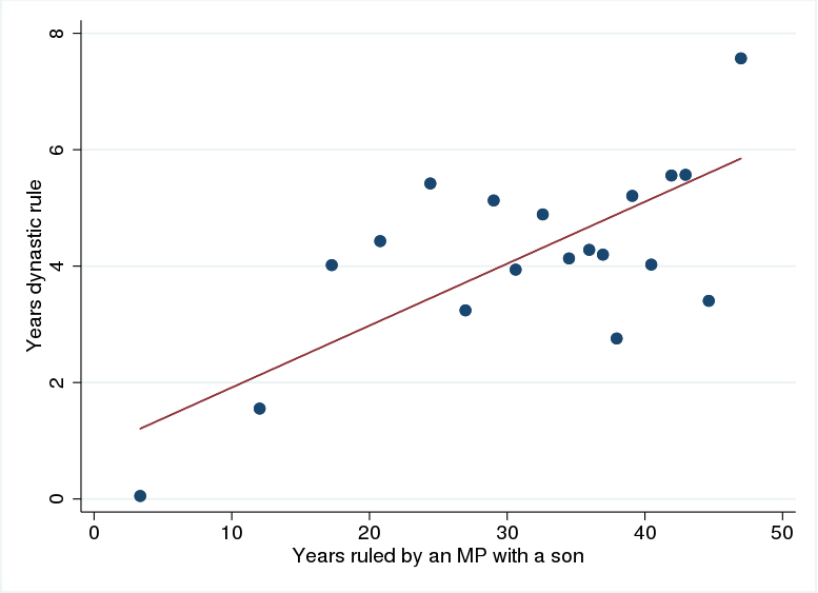
This presents presents results from the regression $Y_i = \alpha_{\#children} + \beta \cdot Has\,son_i + \gamma X_i + \epsilon_i$. Panel A shows that politicians with a son are similar to politicians with only daughters on a wide range of personal and political characteristics. Each plot shows the coefficient β when that covariate is the outcome variable Y_i in the regression. Data on politicians' personal characteristics comes from the Lok Sabha biographical sketches. *Elite Cultural Activities* refers to participation in horse-riding or membership in country or golf clubs. We classify political preferences based on information on politicians' profiles: parliamentary committee membership, involvement with social causes and organisations, and stated political causes of interest. We code dummies indicating whether a politician indicates interest in each issue. *Vote share* and *Win margin* refer to electoral performance in the politician's first election.
Panel B plots the fraction of politicians who found dynasties based on the gender composition of their children.

Figure 10: **Estimating Overall Effect of Dynastic Equilibrium using sons instrument**

(a) Villages represented by MPs with a son are similar to villages represented by MPs with only daughters



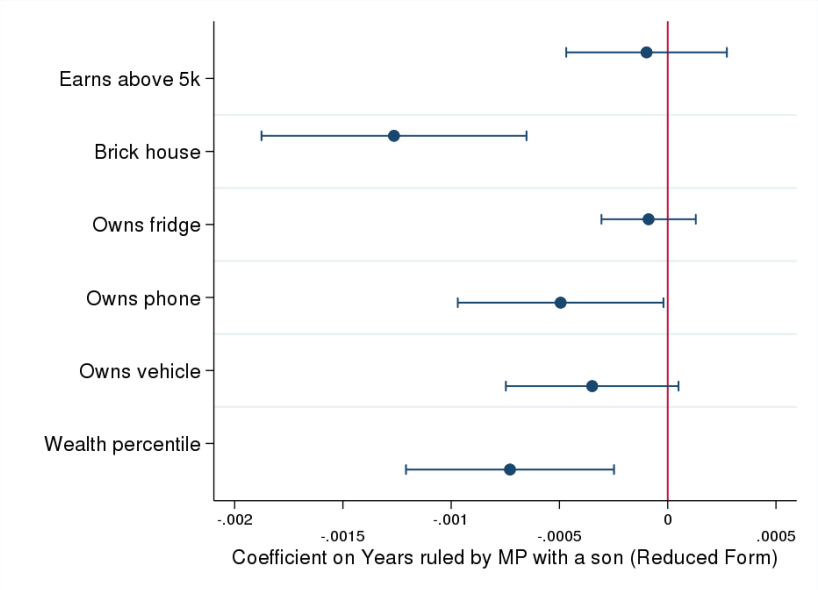
(b) First stage (village level)



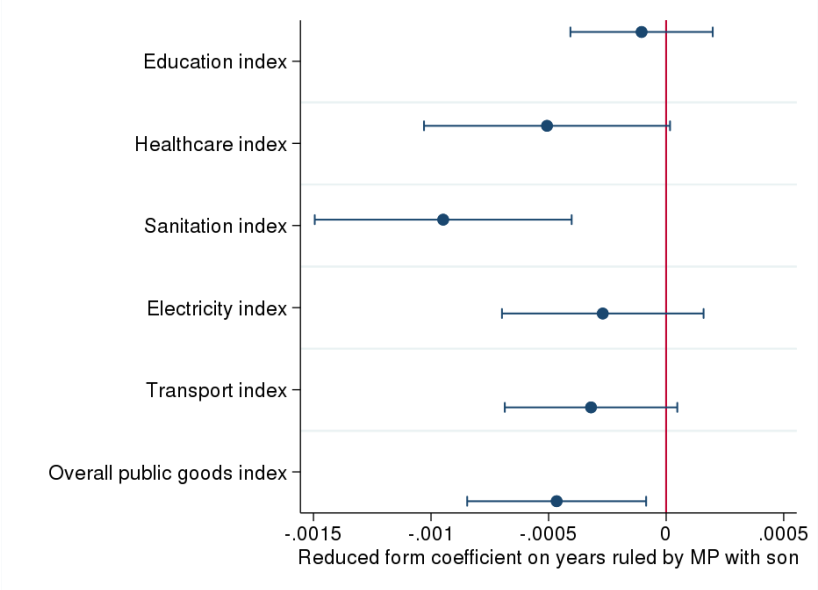
This figure presents covariate balance and first stage results. We estimate the regression $Y_i = \alpha_{district} + \beta \cdot Years\ represented\ by\ MP\ with\ a\ son_i + \gamma X_i + \epsilon_i$. Panel A presents the coefficient β from the regression where each of the covariates listed is the Y variable. Data on demographics, pre-period development levels, pre-period health status and pre-period development trends come from the 1921, 1931 and 1951 Censuses of India. *Zamindari land revenue* is a dummy indicating whether the village was in a district that was historically under a landlord-based revenue collection system. *Years British rule* gives the total number of years village i was under direct British rule. Panel B presents first stage results, estimating the above equation where the Y variable is *Years dynastic rule*, which is the total number of years village i has been represented in the national parliament by an MP who was either a dynastic founder or descendant. All regressions include controls for the share of Scheduled Caste, Scheduled Tribe, General caste and tribal households, the total male and female population, and the fraction of adults. Standard errors are clustered at the constituency level.

Figure 11: **Long-run net impact of dynastic rule**

(a) Poverty



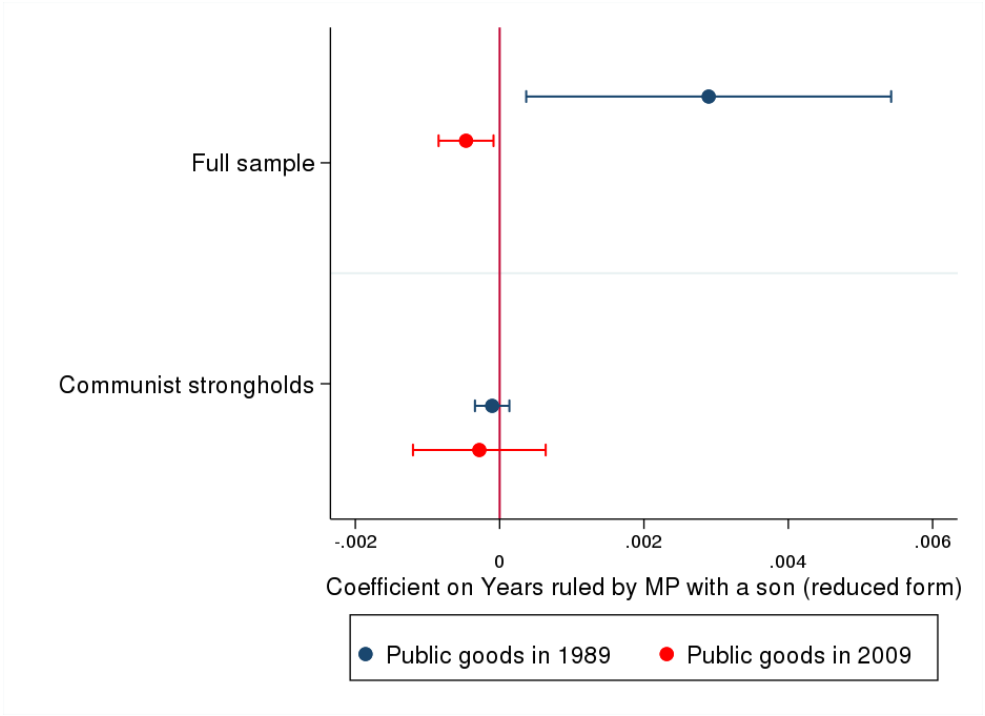
(b) Public Good Provision



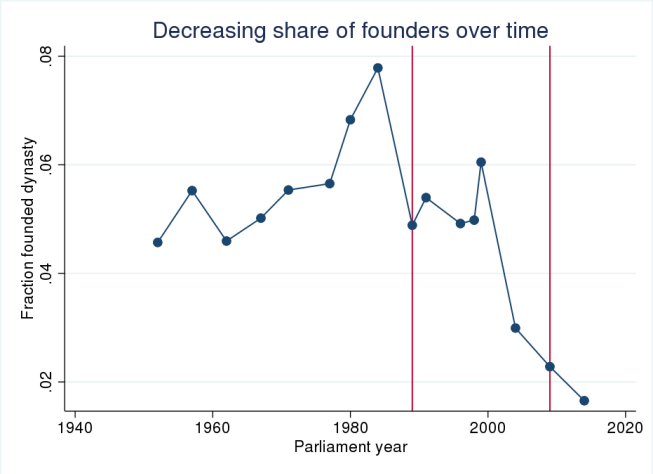
This figure presents results on the overall impact of dynastic politics, identified using our "sons instrument". We estimate the equation $y_i = \alpha + \beta \cdot Years\ represented\ by\ MP\ with\ a\ son_i + District\ FE + \gamma X_i + \epsilon_i$. Each plot presents the coefficient β with a different outcome variable. *Years represented by an MP with a son* refers to the total number of years that village i has been represented in the Lok Sabha, the lower house of India's national parliament by an MP who had a son. The outcome variables in Panel A are measures of poverty. The key outcome variable is *Wealth index*, which is based on data from the Socioeconomic and Caste Census. The undelrying variables used to construct the index are: (i) *Earns > Rs 5k*: the share of households earning over Rs 5000 (≈US$70) per month, (ii) *Brick house*: the share of households in a village living in a structure with at least a brick or concrete wall and roof, (iii) *Fridge*, *Phone* and *Vehicle*: the share of households in a village who own these assets. We take the pricnipal component of these variables and assign villages a percentile rank (between 0 and 1) based on their index score. The outcome variables in Panel C are measures of public good provision, compiled from the Census of India 2011. *Public goods rank* is a village's percentile rank based on public good availability. We construct a public goods index by (i) constructing dummy variables indicating availability of public goods for five different categories, namely education, health, sanitation, communications and electricity, and (ii) taking the principal component of the 5 category indexes. Each village's public goods rank (0-1) is based on its public goods index score. All regressions include district fixed effects, and controls for the share of Scheduled Caste, Scheduled Tribe, General caste and tribal households, the total male and female population, and the fraction of adults. Standard errors are clustered at the constituency level.

Figure 12: **Dynastic rule causes reversal of fortune development pattern**

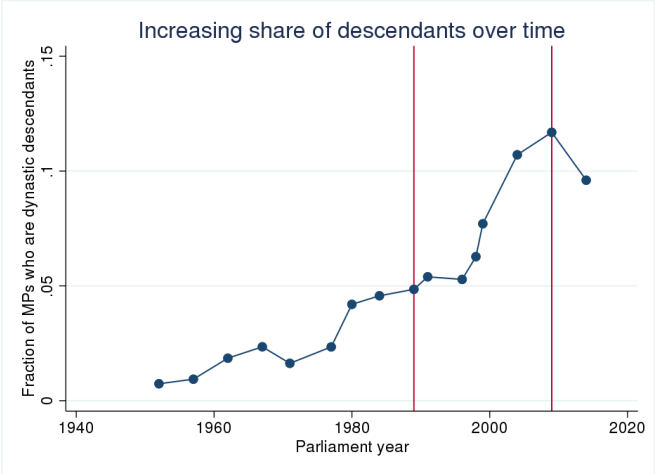
(a) Reversal of fortune



(b) Founder entry



(c) Descendant entry



This figure presents results on the time-varying patterns in the development effects of dynastic politics, identified using our "sons instrument". We estimate the equation $y_i = \alpha + \beta \cdot Years\ represented\ by\ MP\ with\ a\ son_i + District\ FE + \gamma X_i + \epsilon_i$. Each plot presents the coefficient β with a different outcome variable. *Years represented by an MP with a son* refers to the total number of years that village i has been represented in the Lok Sabha, the lower house of India's national parliament by an MP who had a son. *Communist strongholds* are a placebo group because the Communist parties have strong norms against dynasties. The outcome variables are measures of public good provision, compiled from the Census of India 2011. *Public goods rank* is a village's percentile rank based on public good availability. We construct a public goods index by (i) constructing dummy variables indicating availability of public goods for five different categories, namely education, health, sanitation, communications and electricity, and (ii) taking the principal component of the 5 category indexes. Each village's public goods rank (0-1) is based on its public goods index score. All regressions include district fixed effects, and controls for the share of Scheduled Caste, Scheduled Tribe, General caste and tribal households, the total male and female population, and the fraction of adults. Standard errors are clustered at the constituency level.

9 Tables

Table 1: **Summary statistics**

	Sample	
	All	Has dynasty
Fraction ruled by political dynasty	**0.35**	1
Total years	47.22	51.37
Years of dynastic rule	5.47	**15.83**
Years of founder rule	2.56	7.39
Years of descendant rule	2.92	8.43
Fraction of years ruled by dynasty	0.11	**0.30**
Fraction of years ruled by founder	0.05	0.14
Fraction of years ruled by descendant	0.06	0.16
No. of villages	474117	163945

This table presents summary statistics on each village's exposure to dynastic politicians in India. *Fraction ruled by political dynasty* is the fraction of villages that have been represented in the national parliament by either a dynastic founder or a dynastic descendant. A dynastic founder is defined as a politician whose relative subsequently runs for political office. A dynastic descendant is defined as a politician whose relative (typically father) previously held political office (ie. was elected to the national parliament or served in the British-era legislative assemblies). Data on family ties comes from digitised MP profiles and candidate affidavits which contain the father's, mother's and spouse's name of each politician.

Table 2: **Descendant effects identified using close elections RD design**

Panel A: Poverty

	(1) Earns > Rs 5k	(2) Brick house	(3) Fridge	(4) Phone	(5) Vehicle	(6) Wealth index
Years descendant rule	0.000114	-0.0395***	-0.0140	-0.0244***	0.0563*	-0.0343***
	(0.00356)	(0.00871)	(0.0242)	(0.00527)	(0.0299)	(0.00307)
N	52412	52412	52412	52412	52412	52412

Panel B: Public Good Provision

	(1) Education	(2) Healthcare	(3) Sanitation	(4) Connectivity	(5) Electricity	(6) Public Goods index
Years descendant rule	-0.00702***	-0.00589***	-0.00773***	0.00410***	0.000779	-0.0100***
	(0.000392)	(0.000575)	(0.000846)	(0.000212)	(0.000583)	(0.000909)
N	61088	61092	60859	60948	54516	54304

Panel C: Voter Assessments

	(1) Redistribution	(2) Public Goods	(3) Security	(4) Effort	(6) Overall performance
Descendant win	-0.0632***	-0.0776***	-0.00304	-0.162***	-0.185***
	(0.00643)	(0.00684)	(0.00652)	(0.00410)	(0.00630)
N	105524	105524	105524	105524	105524

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

This table presents estimates of the effects of dynastic descendants on poverty, public good provision and voters' assessment of governance, identified using a a close elections RD design. We restrict attention to elections between a dynastic descendant and a non-dynast, and compare villages located in constituencies where a descendant narrowly won against villages in constituencies where a descendant narrowly lost. We estimate the specification $Y_i = \alpha + \beta \cdot Descendant\ win_i + f\left(Descendant\ margin_i\right) + \gamma X_i + \varepsilon_{it}$. **Panel A** presents results on poverty. Each outcome variable denotes the share of households in a village that meets a particular wealth criterion, using data from the Socioeconomic and Caste Census. *Earns > Rs 5k* is the share of households earning over Rs 5000 (≈US$70) per month. *Brick house* is the share of households in a village living in a structure with at least a brick or concrete wall and roof. *Fridge, Phone* and *Vehicle* respectively denote the share of households in a village who own these assets. *Wealth index* is constructed by taking the principal component of the dependent variables in columns (1)-(5) and assigning villages a percentile rank (between 0 and 1) based on their index score. All regressions include district fixed effects, and controls for the share of Scheduled Caste, Scheduled Tribe, General caste and tribal households, the total male and female population, and the fraction of adults. Standard errors are clustered at the constituency level. **Panel B** presents results on public good provision. The outcome variable in columns (1)-(5) is a village's percentile rank in terms of public good availability for a specific category. We code dummies reflecting the availability of specific public goods using data from the Census of India 2011 and construct an index based on the principal component of the underlying dummies. The *Education* index is based on the availability of primary, middle and higher secondary schools. The *Healthcare* index is based on the availability of a primary health centre or subcentre, a dispensary, TB clinic, and maternity health centre. The *Sanitation* index is based on the existence of a treated tap water, drainage and garbage collection system. The *Connectivity* index is based on the availability of roads within the village and connecting it to highways, public bus services and railway stations. The *Electricity* index is based on the daily electricity supply to domestic, agricultural and commercial users in the village. The overall *Public Goods* is the principal component of the underlying indices. All regressions include district fixed effects, and controls for male and female population, geographical area, and the share of Scheduled Caste and Scheduled Tribe. Standard errors are clustered at the constituency level. **Panel C** presents results on voter assessments of politician performance. Data comes from the Association for Democratic Reform's survey of voters. Voters rate their MP's performance on 30 issues, which we collapse into four performance indices. *Redistribution* comprises grain and food subsidies, minimum support prices and employment reservations for social groups. *Public Goods* refers to performance on electrification, irrigation, healthcare, public transport, school, garbage clearance and drinking water programmes. *Security* refers to performance on policing, anti-terrorism and preventing enroachment of lands. *Effort* refers to voters' assessment of a politician's effort and accessibility.

Table 3: **Descendant effects — External validity of RD**

Sample	All close races	Descendant loses without party swing	Descendant wins without party swing	Descendant with median victory margin
Descendant	-0.0252***	-0.0402***	-0.0168***	-0.00539***
	(0.00151)	(0.00222)	(0.0028)	(0.00031)
Observations	32257	10782	25279	3558

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

This figure presents results from our baseline regression discontinuity design specification (described in 2) restricted to specific subsamples of descendants. As in the baseline specification, we restrict attention to elections where the top two candidates are a dynastic descendant and a non-dynast. We then compare villages in constituencies where a descendant narrowly wins to villages in constituencies where a descendant narrowly loses. We estimate our baseline specification on four subsamples, based on 4. *Would lose absent party swing* restricts the sample to elections where the descendant would have lost in the absence of aggregate party swing. *Would win absent party swing* restricts the sample to elections where the descendants would have won absent party-wide shocks to her vote share. *Descendants in marginal races* are the baseline sample and comprise all descendants in close races. *Average descendant* restricts the sample to descendants who, in the absence of party swing, would have achieved a win margin close to that of the average descendant.
The running variable is *Descendant win margin*, which is defined as the vote share of the dynastic descendant minus the vote share of non-dynast. The outcome variable is *Wealth index*, which is constructed using measures of poverty from the Socioeconomic and Caste Census. The variables used to construct the index are: (i) *Earns > Rs 5k*: the share of households earning over Rs 5000 (≈US$70) per month, (ii) *Brick house*: the share of households in a village living in a structure with at least a brick or concrete wall and roof, (iii) *Fridge, Phone* and *Vehicle*: the share of households in a village who own these assets. We take the pricnipal component of these variables and assign villages a percentile rank (between 0 and 1) based on their index score.
All regressions include district fixed effects, and controls for the share of Scheduled Caste, Scheduled Tribe, General caste and tribal households, the total male and female population, and the fraction of adults. Standard errors are clustered at the constituency level.

Table 4: **Why Descendants Underperform — Evidence of Moral Hazard**

	Vote share	Development project completed		
	(1)	(2)	(3)	(4)
Fraction Overlap with Founder's constituency	0.116*	-0.0143***		
	(0.0672)	(0.00432)		
No of brothers			0.00403***	
			(0.00178)	
Son in law				0.044***
				(0.0057)
Sample	Descendants	Descendants	Descendants	Descendants
Observation unit	Politician-Election	Project	Project	Project
Politician FE	Yes	Yes	No	No
Implementing Agency FE	N/A	Yes	Yes	Yes
# Siblings FE	N/A	N/A	Yes	N/A
Adjusted R^2	0.400	0.374	0.414	0.267
Observations	345	19474	275,529	60358

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

This table presents results supporting moral hazard as a reason why descendants underperform. We estimate the specification $Y_{it} = \alpha_i + \beta \cdot Overlap\ fraction + \gamma X_{it} + \epsilon_{it}$. The outcome variable in Column 1 is the vote share of politician i in electoral term t while in Column 2 it is the share of local area development projects funded out of the Member of Parliament Local Area Development Scheme (MPLADS) that are completed. All regressions include politician fixed effects. Column 1 includes election year controls. Column 2 includes controls for project expenditure, total number of local development projects undertaken and total MPLADS expenditure, as well as fixed effects for the project implementing agency (eg. the Public Works Department of the 2nd block of Ajmer). Data on vote shares comes from the Election Commission of India while data on MPLADS project outcomes comes from the MPLADS database. *Fraction Overlap with founder's constituency* denotes the spatial overlap between a descendant's constituency and her predecessor's former constituency. This variable ranges from 0 to 1. *No of brothers* is the number of brothers a descendant has, while *Son in law* is a dummy indicating whether the descendant is a son-in-law of a former officeholder. Standard errors are clustered at the politician-year level.

Table 5: **Identifying Founder Effects using constituency boundary changes**

Panel A: Poverty						
	(1) Earns > Rs 5k	(2) Brick house	(3) Fridge	(4) Phone	(5) Vehicle	(6) Wealth index
Years founder rule	0.00392***	0.00504**	0.00114**	0.000993	0.00155	0.00371**
	(0.00103)	(0.00204)	(0.000514)	(0.00122)	(0.00105)	(0.00145)
Adj R^2	0.307	0.603	0.544	0.704	0.370	0.663
N	73800	73800	73800	73800	73800	73800

Panel B: Public Good Provision						
	(1) Education	(2) Healthcare	(3) Sanitation	(4) Connectivity	(5) Electricity	(6) Public Goods index
Years founder rule	0.00862*	0.00267*	0.00105	0.00825**	0.00666	0.00575**
	(0.00522)	(0.00140)	(0.00317)	(0.00381)	(0.00767)	(0.00282)
Adjusted R^2	0.333	0.240	0.139	0.131	0.311	0.370
N	23714	32915	23714	32915	32915	23714

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

This figure presents results on the economic effects of dynastic founders, identified using changes to constituency boundaries. We estimate the equation $y_i = \alpha + \beta \cdot Years\ founder\ rule_i + Current\ constFE + Controls_i + \epsilon_i$. *Years founder rule* is the key independent variable and refers to the number of years village i has been represented by a dynastic founder. A politician is a founder if her relative subsequently held political office. Data on poverty measures comes from the Socioeconomic and Caste Census and information on constituency boundaries comes from MLInfoMap. Panel A presents results on poverty. Each outcome variable denotes the share of households in a village that meets a particular wealth criterion, using data from the Socioeconomic and Caste Census. *Earns > Rs 5k* is the share of households earning over Rs 5000 (≈US$70) per month. *Brick house* is the share of households in a village living in a structure with at least a brick or concrete wall and roof. *Fridge*, *Phone* and *Vehicle* respectively denote the share of households in a village who own these assets. *Wealth index* is constructed by taking the principal component of the dependent variables in columns (1)-(5) and assigning villages a percentile rank (between 0 and 1) based on their index score. All regressions include district fixed effects, and controls for the share of Scheduled Caste, Scheduled Tribe, General caste and tribal households, the total male and female population, and the fraction of adults. Standard errors are clustered at the constituency level. Panel B presents results on public good provision. The outcome variable in columns (1)-(5) is a village's percentile rank in terms of public good availability for a specific category. We code dummies reflecting the availability of specific public goods using data from the Census of India 2011 and construct an index based on the principal component of the underlying dummies. The *Education* index is based on the availability of primary, middle and higher secondary schools. The *Healthcare* index is based on the availability of a primary health centre or subcentre, a dispensary, TB clinic, and maternity health centre. The *Sanitation* index is based on the existence of a treated tap water, drainage and garbage collection system. The *Connectivity* index is based on the availability of roads within the village and connecting it to highways, public bus services and railway stations. The *Electricity* index is based on the daily electricity supply to domestic, agricultural and commercial users in the village. The overall *Public Goods* is the principal component of the underlying indices. All regressions include district fixed effects, and controls for male and female population, geographical area, and the share of Scheduled Caste and Scheduled Tribe. Standard errors are clustered at the constituency level. Panel C presents results on voter assessments of politician performance. Data comes from the Association for Democratic Reform's survey of voters. Voters rate their MP's performance on 30 issues, which we collapse into four performance indices. *Redistribution* comprises grain and food subsidies, minimum support prices and employment reservations for social groups. *Public Goods* refers to performance on electrification, irrigation, healthcare, public transport, school, garbage clearance and drinking water programmes. *Security* refers to performance on policing, anti-terrorism and preventing enroachment of lands. *Effort* refers to voters' assessment of a politician's effort and accessibility.

Table 6: **Politicians with a son are twice as likely to found a dynasty**

	Dependent variable: indicator variable denoting whether politician *i* founded a dynasty					
	(1)	(2)	(3)	(4)	(5)	(6)
Has son	0.0168***	0.0235**	0.0409**	0.00313	0.0767**	-0.0727
	(0.00515)	(0.0104)	(0.0209)	(0.00350)	(0.0319)	(0.0509)
Sample	All	All	Older cohort	Younger cohort	Dynastic parties	Non-dynastic parties
FE for # children	Yes	Yes	Yes	Yes	Yes	Yes
Demographic controls	Yes	Yes	Yes	Yes	Yes	Yes
Political controls	No	Yes	Yes	Yes	Yes	Yes
State FE	No	Yes	Yes	Yes	Yes	Yes
Party FE	No	Yes	Yes	Yes	Yes	Yes
Observations	2998	1777	998	710	432	107

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

This table presents results from the regression $Founded\,Dynasty_i = \alpha_{\#children} + \beta \cdot Has\,son_i + \gamma X_i + \epsilon_i$. *Founded dynasty* is a dummy indicating whether politician *i* founded a dynasty, ie. had a relative hold political office in the future. *Has son* is a dummy indicating that politician *i* has a son. All regressions include a fixed effect for the number of children a politician has. Column 1 includes demographic controls: politician gender, year of birth, year of marriage, marital status, educational attainment, and occupational status. Column 3 adds political controls: year entered politics, vote share in 1st election, dummies for being imprisoned during the British era or the Emergency, involvement in the independence movement, serving in the constituent assembly that drafted India's Constitution, leadership of a union, holding prior political office at the municipal or state assembly level, holding a leadership position in a political party and being a member of the Rashtriya Swayamsevak Sangh (RSS). *Older cohort* refers to politicians born before 1950 (the median year of birth). *Dynastic parties* refer to all parties except the Communist Party of India and the Communist Party of India (Marxist). Standard errors are clustered at the politician level.

Table 7: **Politicians with a son exert more effort while in office**

	MP fund devt project completed	Quarterly meeting with local bureaucrats held	Vote buying	Voter assessment score (1-3)
Has son	0.018***	0.063**	0.0025	0.103***
	(0.004)	(0.0312)	(0.039)	(0.040)
Unit of observation	Project	District-Quarter	Voter	Voter
Fixed effects	Implementing Agency	State, Party	State, Party	State, Party
SE Clustering	Constituency	District	Constituency	Constituency
Adjusted R^2	0.451	0.304	0.163	0.344
Observations	151,811	2301	204,416	204,416

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

This table presents results showing evidence supporting bequest motives. We estimate the regression $Y_i = \alpha_{\#children} + \beta \cdot Has\,son_i + \gamma X_i + \epsilon_i$. *Has son* is a dummy indicating that politician i has a son. All regressions include a fixed effect for the number of children a politician has. *MP fund development project completed* is an indicator variable denoting whether a project funded out of the Member of Parliament Local Area Development Scheme (MPLADS) was completed. *Quarterly meeting with local bureaucrats held* refers to the meeting under the DISHA scheme that MPs, through their offices, are supposed to coordinate and chair to take stock of the implementation of local development projects and the implementation of government programs. *Vote buying* is a dummy taking the value 1 if an individual reported receiving gifts or cash in exchange for voting or witnessed others receiving the same. *Voter assessment* is a score 1-3 constructed based on a survey of voters by the Association of Democratic Reform, an Indian NGO. Voters are asked for each of 30 issues to rate how important the issue is to them and how well their MP performed on it. We constructed a weighted average performance score that each voter assigns to each MP, and the overall assessment score is the average of all voters' scores.

Table 8: **Overall effect of dynastic politics on poverty and public good provision**

Panel A: Poverty (IV)

	(1) Earns > Rs 5k	(2) Brick house	(3) Fridge	(4) Phone	(5) Vehicle	(6) Wealth index
Years dynastic rule	-0.00567	-0.0237***	-0.00321	-0.00960*	-0.00954**	-0.0166***
	(0.00368)	(0.00813)	(0.00206)	(0.00504)	(0.00447)	(0.00640)
Adj R^2	0.307	0.603	0.544	0.704	0.370	0.663
N	73800	73800	73800	73800	73800	73800

Panel B: Public Good Provision (IV)

	(1) Education	(2) Healthcare	(3) Sanitation	(4) Connectivity	(5) Electricity	(6) Public Goods index
Years dynastic rule	-0.00292	-0.0106	-0.0199**	-0.00795*	-0.00986	-0.0111**
	(0.00337)	(0.00662)	(0.00859)	(0.00479)	(0.00612)	(0.00524)
Adjusted R^2	0.375	0.267	0.474	0.350	0.651	0.516
N	358910	360616	357715	357690	303567	301826

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

This figure presents results on the overall effects of dynastic politics, where we instrument for exposure to dynastic rule using the length of time represented by an MP with a son. We estimate the equation $y_i = \alpha_{district} + \beta \cdot Years\,dynastic\,rule_i + \gamma X_i + \epsilon_i$. *Years dynastic rule* is the key independent variable and refers to the total number of years a village has been represented in parliament by either a dynastic founder or descendant. Panel A presents results on measures of poverty from the Socioeconomic and Caste Census (SECC). Each outcome variable denotes the share of households in a village that meets a particular wealth criterion, using data from the Socioeconomic and Caste Census. *Earns > Rs 5k* is the share of households earning over Rs 5000 (≈US$70) per month. *Brick house* is the share of households in a village living in a structure with at least a brick or concrete wall and roof. *Fridge, Phone* and *Vehicle* respectively denote the share of households in a village who own these assets. *Wealth index* is constructed by taking the principal component of the dependent variables in columns (1)-(5) and assigning villages a percentile rank (between 0 and 1) based on their index score. All regressions include district fixed effects, and controls for the share of Scheduled Caste, Scheduled Tribe, General caste and tribal households, the total male and female population, and the fraction of adults. Standard errors are clustered at the constituency level. Panel B presents results on public good provision. The outcome variable in columns (1)-(5) is a village's percentile rank in terms of public good availability for a specific category. We code dummies reflecting the availability of specific public goods using data from the Census of India 2011 and construct an index based on the principal component of the underlying dummies. The *Education* index is based on the availability of primary, middle and higher secondary schools. The *Healthcare* index is based on the availability of a primary health centre or subcentre, a dispensary, TB clinic, and maternity health centre. The *Sanitation* index is based on the existence of a treated tap water, drainage and garbage collection system. The *Connectivity* index is based on the availability of roads within the village and connecting it to highways, public bus services and railway stations. The *Electricity* index is based on the daily electricity supply to domestic, agricultural and commercial users in the village. The overall *Public Goods* is the principal component of the underlying indices. All regressions include district fixed effects, and controls for male and female population, geographical area, and the share of Scheduled Caste and Scheduled Tribe. Standard errors are clustered at the constituency level.

Appendix

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A Descendant effects: Additional Results

A.1 Additional Outcomes

Night time luminosity is increasingly used by development economists and economic geographers as a proxy for local economic growth. Existing work demonstrates that night light intensity correlates strongly with human development levels and growth over time (Henderson, Storeygard and Weil 2012; Costinot, Donaldson and Smith 2016; Donaldson and Storeygard 2016; Bruederle and Hodler 2018). The data come from images taken by NASA satellites of the world at night. We compile this data at village level for India from 1992-2013. The advantages of this data are that they are available as an annual panel and at a very fine spatial level ($1km^2$). We estimate the effects of descendant rule on night time lights growth, using the close elections RD strategy discussed in 4.1.1.

A.8 presents results from this village-level RD regression. Visually we can see that the results demonstrate a negative effect of dynastic rule on night lights growth. Next, we include district and subdistrict fixed effects to control for unobserved district-level factors that affect night time lights growth. Column 1 of table A.7 tells us that dynastic rule reduces village-level night lights growth by 0.44 pp per annum on average, which is approximately 0.21 std deviations. This effect is sizeable: it is roughly the difference in growth between a constituency at the 50th percentile of the lights growth distribution (like Mysore) and a constituency at the 5th percentile (like Dhar in Madhya Pradesh). The effect size and statistical significance of the coefficient are similar in column 2, where the bandwidth is a dynastic victory margin of 3% rather than the 5% in column 1. In column 3, we shrink the bandwidth to 1%, and the effect size is much less precisely estimated. Column 4 shows that including district fixed effects leaves the point estimate virtually unchanged by increases standard errors, but the coefficient is still statistically significant at the 10% level. However, introducing subdistrict fixed effects, which is a very restrictive specification, marginally reduces the point estimate and increases standard errors so that the coefficient is negative but no longer statistically significant at the 10% level.

A.2 Additional Identification Strategy

In the paper we studied constituency boundary changes for two main purposes. In Section 4.3.2, we used boundary changes to identify moral hazard as a channel for descendant underperformance. Redistricting affects the extent of overlap between a descendant's constituency and his father's former constituency, changing the number of votes the same descendant inherits in different elections. Then, in Section 5, we

used boundary changes to identify founder effects. Some villages represented by the founder are redistricted into a neighbouring constituency before the descendant enters politics, allowing to identify the effects of being represented by a founder but not a descendant.

We can also conduct the opposite exercise and use redistricting to identify descendant effects. Some villages never represented by the founder are redistricted into a descendant's constituency, and we can in theory use this variation to identify the effects of exposure to a descendant but not a founder. In other words, we would look at villages that were previously in the same constituency (represented by a non-dynast), and compare villages that were redistricted into a descendant's constituency against those that remained behind in the original constituency. This identification strategy would be complementary to the close elections RD design we described in Section 4.1.1. Specifically, we estimate

$$y_i = \alpha_{old\,constituency} + \beta \cdot Years\,descendant\,rule_i + \gamma X_i + \epsilon_i$$

where i denotes a village, y_i denotes poverty and public good outcomes of village i and $\alpha_{constituency}$ is a fixed effect for each pre-boundary change constituency. Figure A.10 presents results on descendant effects. In contrast to founders, descendants appear to have a negative impact on economic outcomes, though the effects are statistically weaker. An additional year of exposure to descendants lowers the share of households who (i) earn above Rs 5k by 0.3pp, (ii) own a fridge by 0.2pp, (iii) own a vehicle by 0.9pp. However, only the coefficient on vehicle ownership is statistically significant at the 5% level. Moreover, the point estimates on living in a brick house is actually positive though insignificant. In sum, an extra year of exposure to descendants lowers a village's wealth rank by 0.3pp (so a standard deviation would lower the wealth rank by 2.4pp), though again this effect is not significant. We believe the weaker results from this identification strategy are due to the following: the identifying variation of this empirical strategy comes from villages that were redistricted into a descendant's constituency during the boundary change exercise of 2008, which took effect after the parliamentary election of 2009. Our outcomes are measured in 2011-12, giving very little time for stock measures of poverty — such as share of population living in a brick house — to change.

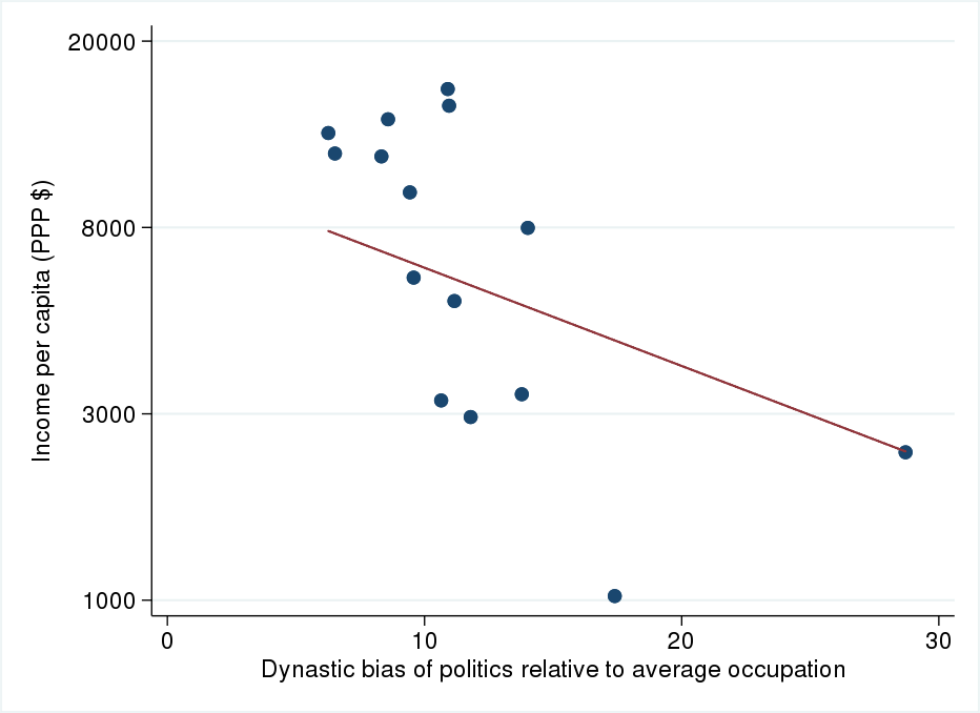
A.3 Additional Mechanisms

A.3.1 Name recognition

Dynasts inherit a bundle of political assets from their predecessors that confer electoral advantage. One of these things is a prominent name. Political scientists have presented empirical evidence supporting the claim that name recognition increases a candidate's vote share (Kam and Zechmeister 2013). In this section we compare the electoral advantages of descendants against a group of non-dynastic politicians who nonetheless have name recognition amongst voters — celebrities. Several film stars and sportspeople (typically cricketers) have entered politics, and we can thus compare both the electoral and in-office performance of celebrities and dynastic descendants. Table A.8 shows that celebrities do not seem to have large electoral advantages and do not appear to perform worse in office, while dynasts on average have an electoral advantage of 2.4pp and perform worse in office (based on the RD). However, the point estimates on both electoral advantage and in-office performance are similar for both dynasts and celebrity politicians, and we are unable to reject that both sets of coefficients are different.

B Additional Figures

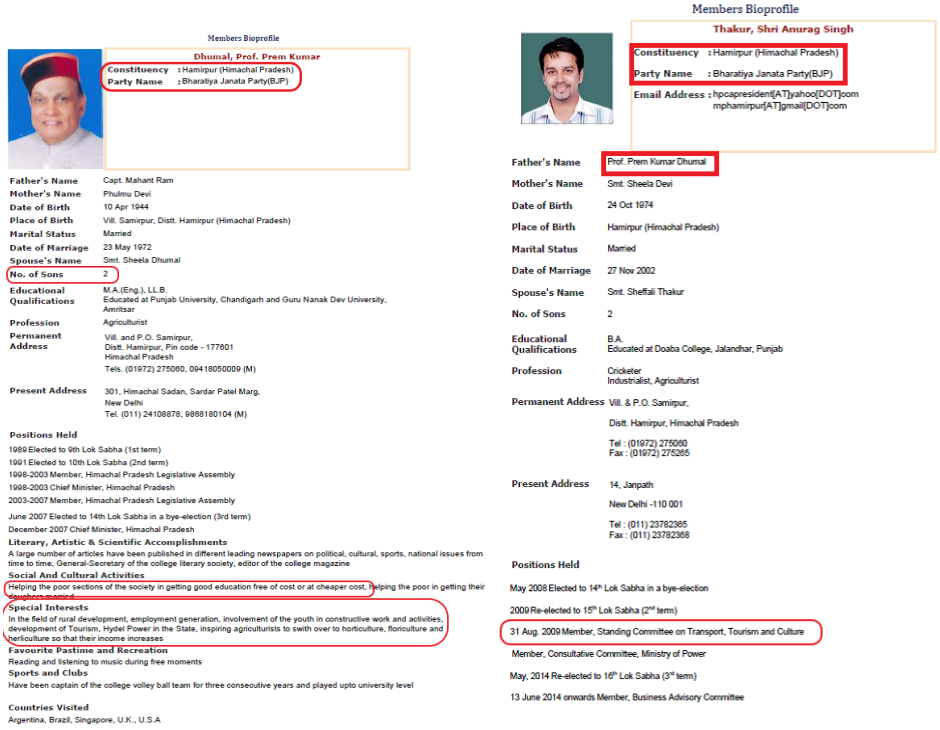
Figure A.1: **Politics is a more dynastic occupation in poor countries**



This figure shows that politics tends to be a more dynastic occupation in poor countries. The y-axis is income per capita in PPP $ terms, and data comes from the World Bank. The x-axis is the relative dynastic bias of politics, defined as the dynastic bias of politics divided by the average dynastic bias of occupations in the country. We define the dynastic bias of occupation i as follows: $Dynastic\ bias_i = \frac{Pr(son\ in\ occupation\ i | father\ in\ occupation\ i)}{Pr(son\ in\ occupation\ i | father\ not\ in\ occupation\ i)}$. This is known as the Bayes factor. We compute dynastic bias numbers for all occupations using census microdata for all (30) democratic countries that have "legislator" or "legislative activity" as a separate occupational category. The data comes from IPUMS, and we compile all available waves for countries that are democratic and meet this occupational criteria. The plot is a binscatter.

Figure A.2: **Data on family ties between politicians**

(a) Biographical profiles of Members of Parliament



Members Bioprofile

Dhumal, Prof. Prem Kumar

Constituency : Hamirpur (Himachal Pradesh)
Party Name : Bharatiya Janata Party(BJP)

Father's Name	Capt. Mahant Ram
Mother's Name	Phulmu Devi
Date of Birth	10 Apr 1944
Place of Birth	Vill. Samirpur, Distt. Hamirpur (Himachal Pradesh)
Marital Status	Married
Date of Marriage	23 May 1972
Spouse's Name	Smt. Sheela Dhumal
No. of Sons	2
Educational Qualifications	M.A.(Eng.), LL.B. Educated at Punjab University, Chandigarh and Guru Nanak Dev University, Amritsar
Profession	Agriculturist
Permanent Address	Vill. and P.O. Samirpur, Distt. Hamirpur, Pin code - 177601 Himachal Pradesh Tels. (01972) 275060, 09418050009 (M)
Present Address	301, Himachal Sadan, Sardar Patel Marg, New Delhi Tel. (011) 24108878, 9868180104 (M)

Positions Held

1989 Elected to 9th Lok Sabha (1st term)
1991 Elected to 10th Lok Sabha (2nd term)
1998-2003 Member, Himachal Pradesh Legislative Assembly
1998-2003 Chief Minister, Himachal Pradesh
2003-2007 Member, Himachal Pradesh Legislative Assembly
June 2007 Elected to 14th Lok Sabha in a bye-election (3rd term)
December 2007 Chief Minister, Himachal Pradesh

Literary, Artistic & Scientific Accomplishments
A large number of articles have been published in different leading newspapers on political, cultural, sports, national issues from time to time, General-Secretary of the college literary society, editor of the college magazine

Social And Cultural Activities
Helping the poor sections of the society in getting good education free of cost or at cheaper cost, Helping the poor in getting their daughters married

Special Interests
In the field of rural development, employment generation, involvement of the youth in constructive work and activities, development of Tourism, Hydel Power in the State, inspiring agriculturists to swith over to horticulture, floriculture and herbiculture so that their income increases

Favourite Pastime and Recreation
Reading and listening to music during free moments

Sports and Clubs
Have been captain of the college volley ball team for three consecutive years and played upto university level

Countries Visited
Argentina, Brazil, Singapore, U.K., U.S.A

Members Bioprofile

Thakur, Shri Anurag Singh

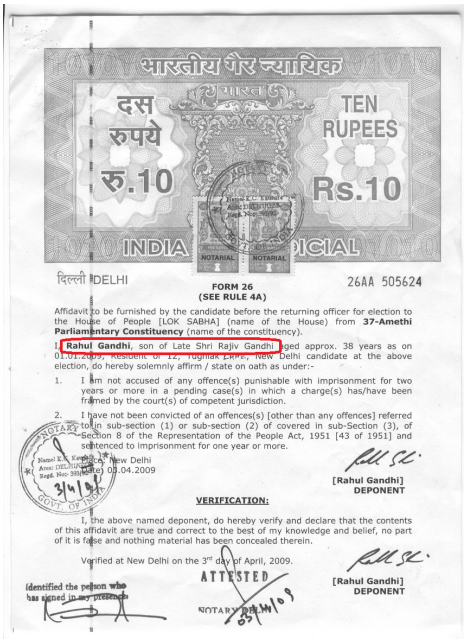
Constituency : Hamirpur (Himachal Pradesh)
Party Name : Bharatiya Janata Party(BJP)
Email Address : hpcapresident[AT]yahoo[DOT]com
mphamirpur[AT]gmail[DOT]com

Father's Name	Prof. Prem Kumar Dhumal
Mother's Name	Smt. Sheela Devi
Date of Birth	24 Oct 1974
Place of Birth	Hamirpur (Himachal Pradesh)
Marital Status	Married
Date of Marriage	27 Nov 2002
Spouse's Name	Smt. Sheffali Thakur
No. of Sons	2
Educational Qualifications	B.A. Educated at Doaba College, Jalandhar, Punjab
Profession	Cricketer Industrialist, Agriculturist
Permanent Address	Vill. & P.O. Samirpur, Distt. Hamirpur, Himachal Pradesh Tel : (01972) 275060 Fax : (01972) 275265
Present Address	14, Janpath New Delhi -110 001 Tel : (011) 23782365 Fax : (011) 23782368

Positions Held

May 2008 Elected to 14th Lok Sabha in a bye-election
2009 Re-elected to 15th Lok Sabha (2nd term)
31 Aug. 2009 Member, Standing Committee on Transport, Tourism and Culture
Member, Consultative Committee, Ministry of Power
May, 2014 Re-elected to 16th Lok Sabha (3rd term)
13 June 2014 onwards Member, Business Advisory Committee

(b) Nomination Affidavits filed by Candidates



भारतीय गैर न्यायिक

दस रुपये ₹.10 TEN RUPEES Rs.10

INDIA NON JUDICIAL

दिल्ली DELHI 26AA 505624

FORM 26
(SEE RULE 4A)

Affidavit to be furnished by the candidate before the returning officer for election to the House of People [LOK SABHA] (name of the House) from **37-Amethi Parliamentary Constituency** (name of the constituency).

I, **Rahul Gandhi**, son of Late Shri Rajiv Gandhi aged approx. 38 years as on 01.01.2009, resident of 12, Tughlak Lane, New Delhi candidate at the above election, do hereby solemnly affirm / state on oath as under:-

1. I am not accused of any offence(s) punishable with imprisonment for two years or more in a pending case(s) in which a charge(s) has/have been framed by the court(s) of competent jurisdiction.
2. I have not been convicted of an offences(s) [other than any offences] referred to in sub-section (1) or sub-section (2) of covered in sub-Section (3), of Section 8 of the Representation of the People Act, 1951 [43 of 1951] and sentenced to imprisonment for one year or more.

Sworn before me at New Delhi
Date: 03.04.2009

[Rahul Gandhi]
DEPONENT

VERIFICATION:

I, the above named deponent, do hereby verify and declare that the contents of this affidavit are true and correct to the best of my knowledge and belief, no part of it is false and nothing material has been concealed therein.

Verified at New Delhi on the 3rd day of April, 2009.

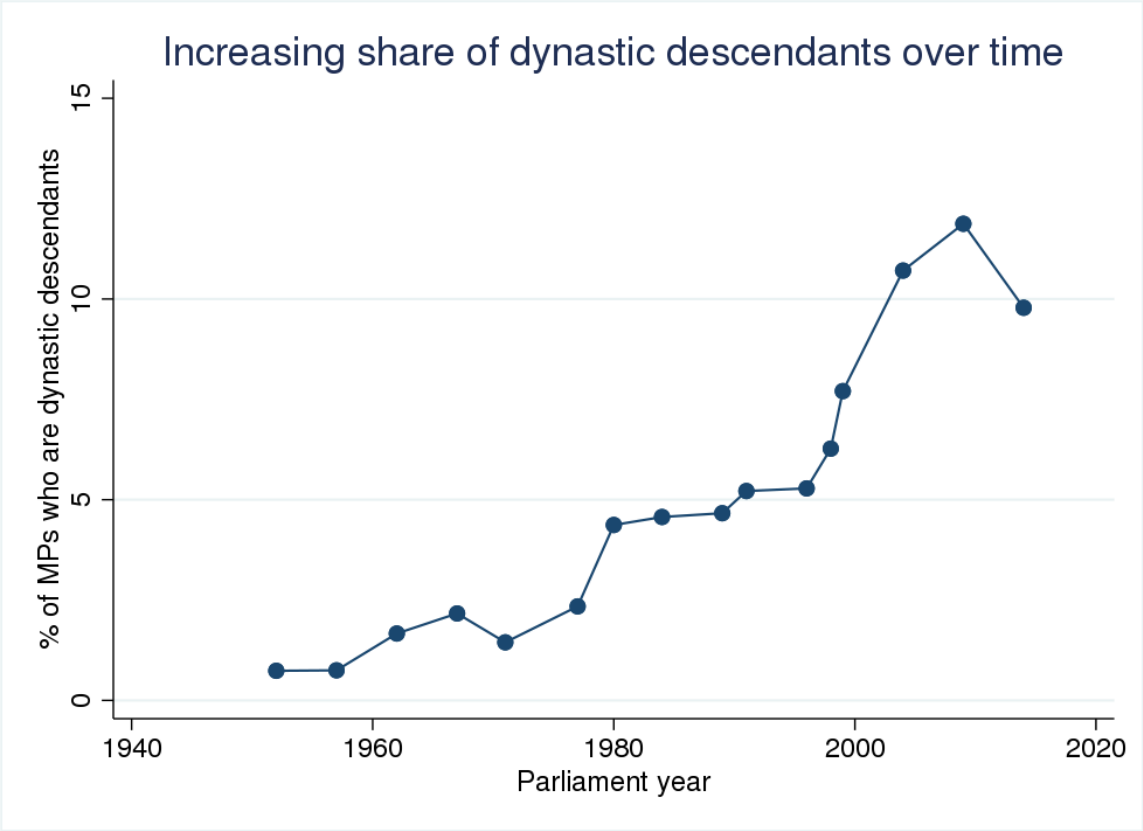
[Rahul Gandhi]
DEPONENT

ATTESTED

Identified the person who has signed in my presence

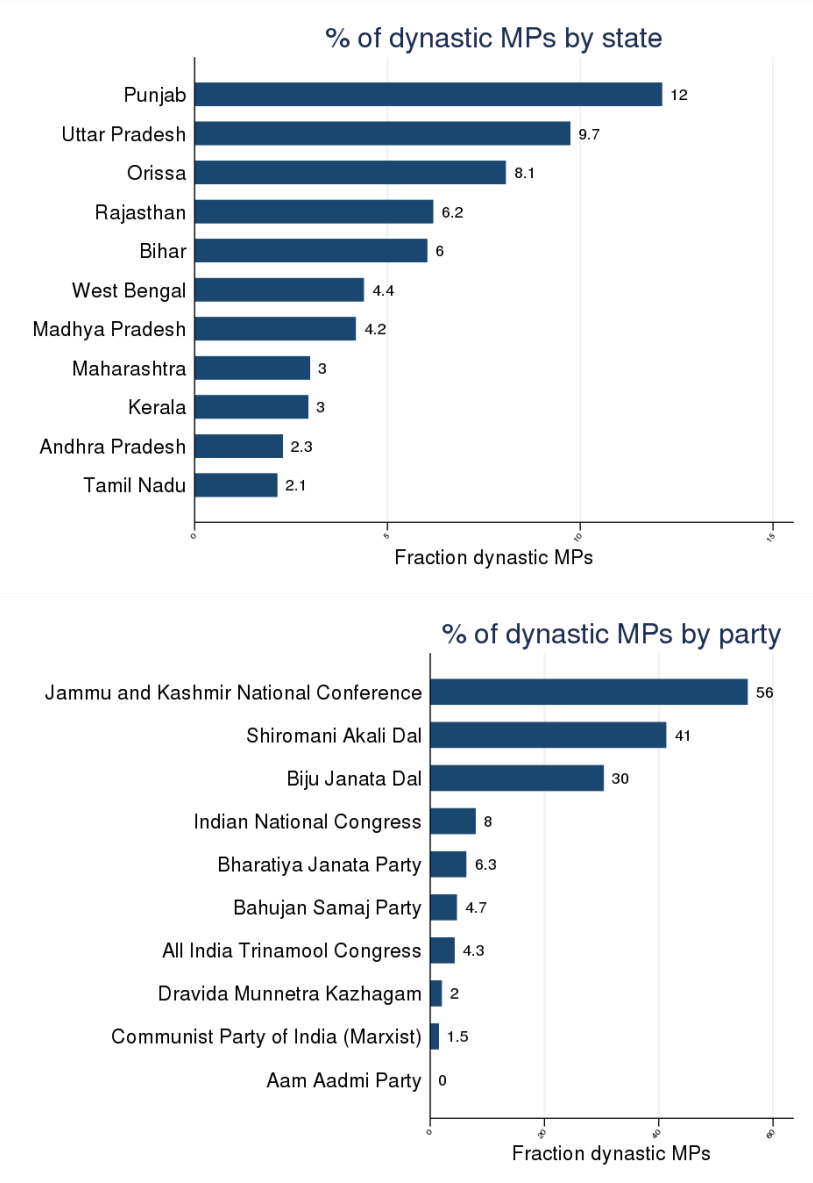
This figure shows the data sources we use to identify family ties between politicians. Panel A shows biographical profiles of two politicians — Prem Kumar Dhumal and his son Anurag Thakur — who are members of the Lok Sabha, the lower house of India's national parliament. The highlighted portions of the profile indicate the data fields that we particularly use, to identify constituency, party, the no of sons and daughters, and most importantly family ties between politicians. Such profiles exist for all Indian MPs. Panel B shows a scanned copy of a nomination affidavit filed by Rahul Gandhi, a 5th generation dynastic politician from the Nehru-Gandhi family. All candidates in state and national elections since 2003 must file such an affidavit along with their nomination papers This allows us to identify dynastic ties for the universe of candidates since 2003.

Figure A.3: **Share of dynastic descendants by cohort of entry into politics**



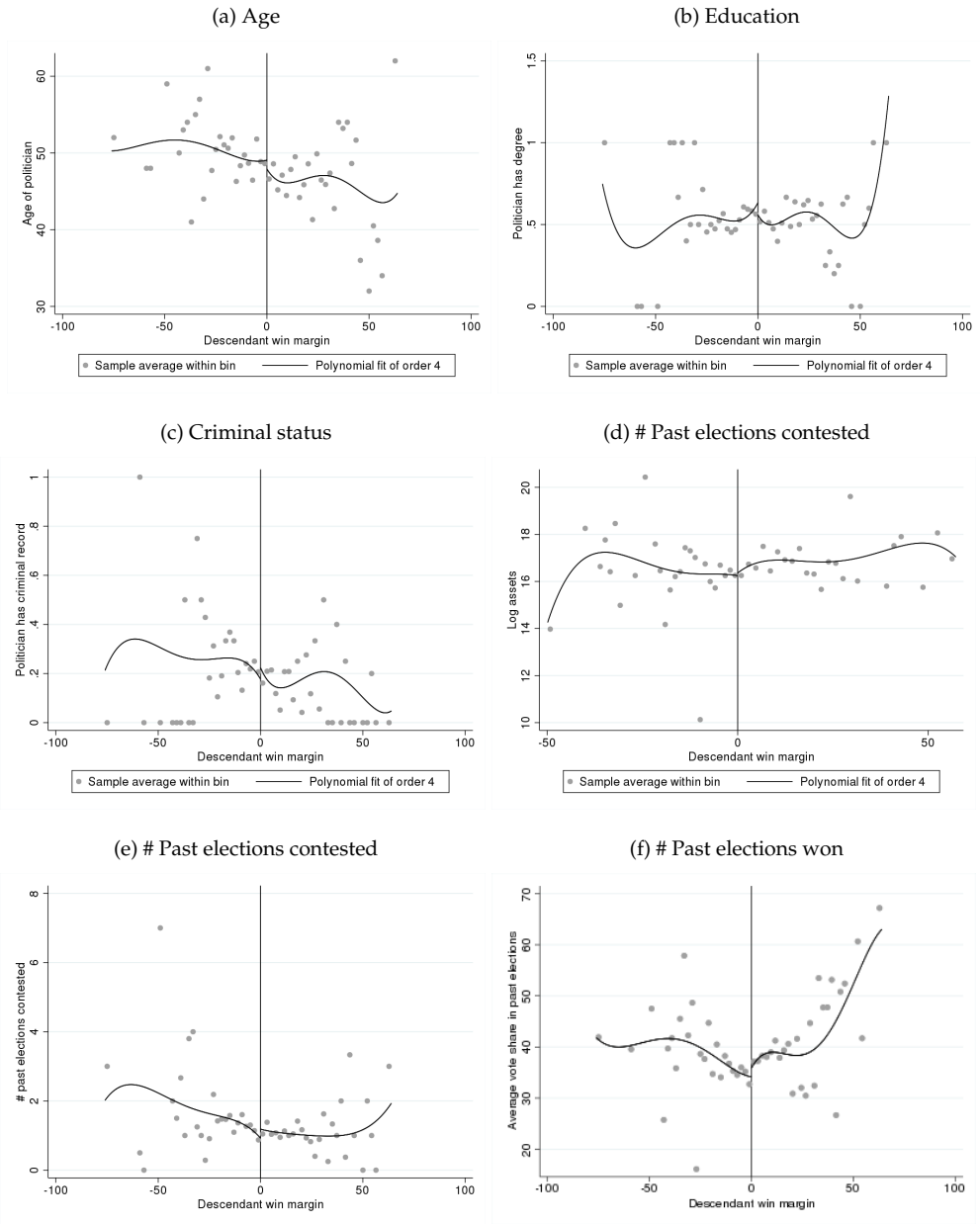
This figure shows the fraction of dynastic descendants in each Lok Sabha, the lower house of India's national parliament. The y-axis is the fraction of each Lok Sabha who are dynastic descendants ie. relatives of (i) individuals elected to earlier Lok Sabhas or (ii) individuals appointed or elected to the British-era legislative assemblies which first admitted Indian members in 1862. Each dot is a Lok Sabha — there have been 16 since India's independence.

Figure A.4: **Distribution of dynastic descendants across states and parties**



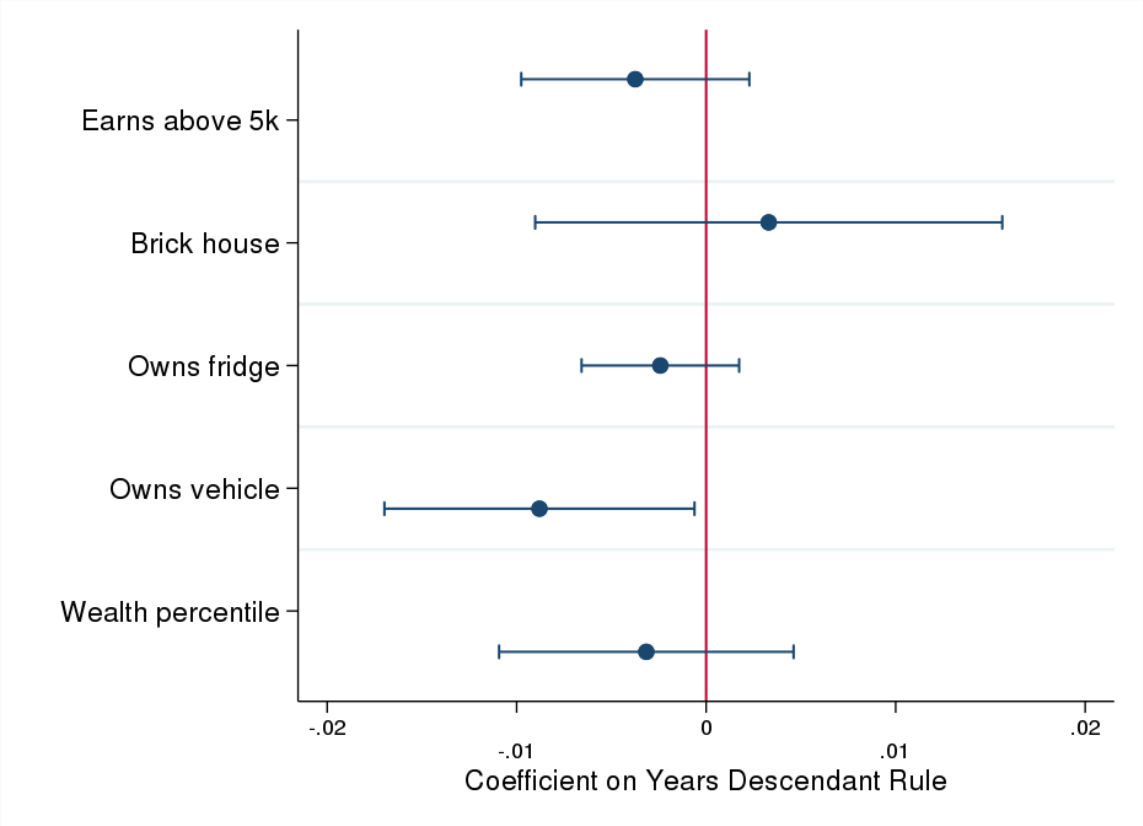
This figure presents summary statistics on the distribution of dynastic descendants across states and parties in India. Each bar plot shows the fraction of a state's or party's members of India's national parliament who are dynastic descendants. For ease of presentation, we only present summary statistics on India's largest states and on the national and major state parties. A politician is classified as a dynastic descendant if her relative — father, mother or spouse — was elected to a previous Lok Sabha, or was appointed or elected to the British-era imperial legislative councils, which first admitted Indian members in 1862.

Figure A.5: **Descendant effects — validity of close elections RD: covariate balance (politician characteristics)**



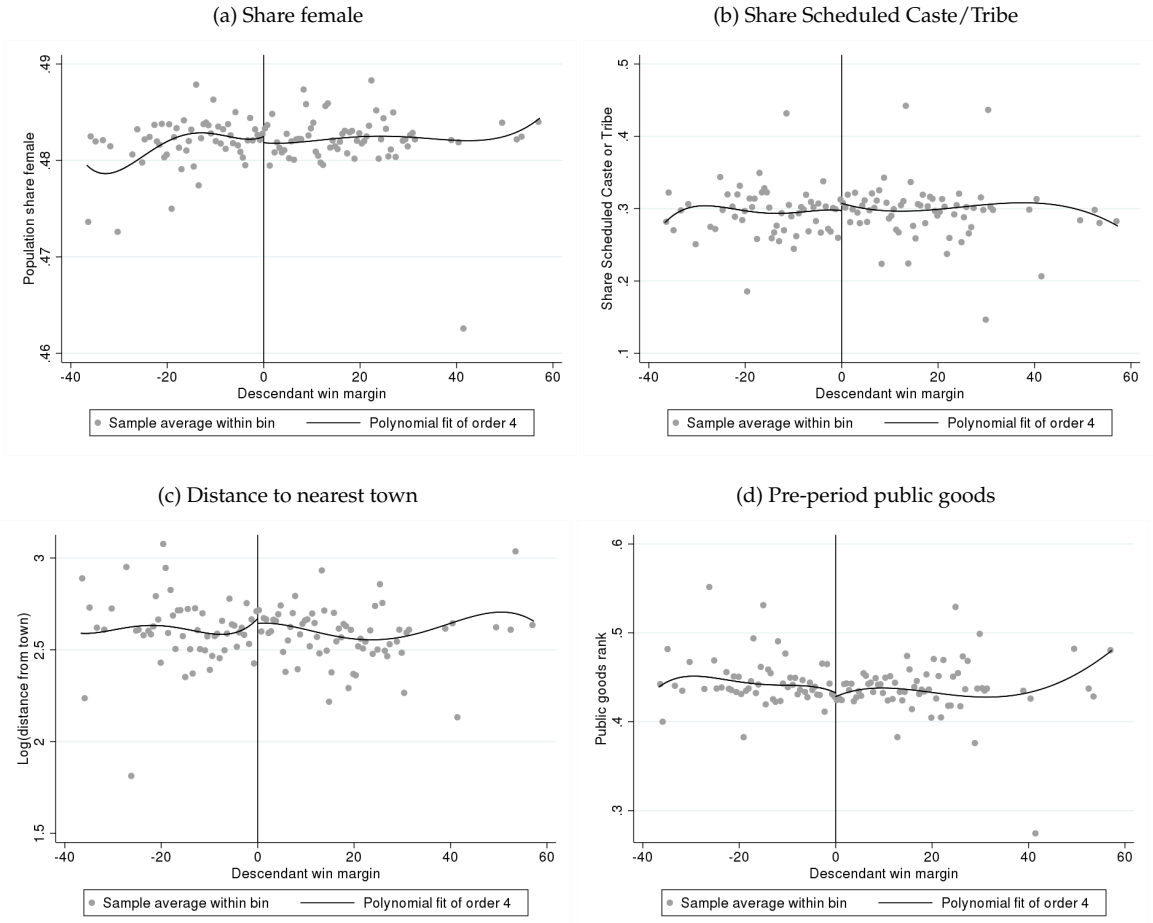
This figure presents plots from a regression discontinuity design specification. We restrict attention to parliamentary elections where the top two candidates are a dynastic descendant and a non-dynast (or vice versa). The running variable is *Descendant win margin*, which is defined as the vote share of the dynastic descendant minus the vote share of non-dynast. The y-variable in each graph is a demographic or political characteristic. Data on age, criminal status and education qualifications comes from affidavits that all candidates file when submitting their nomination papers. *Politician has criminal record* is a dummy variable indicating whether the politician had outstanding criminal charges at the time of the election. *Politician has degree* is a dummy variable indicating whether the politician completed a university degree in any subject. *Log assets* is the natural logarithm of the total Rupee value of a politician's liquid and illiquid assets as disclosed on the affidavit. *# past elections contested*, and *Average vote share in past elections* are measured by constructing a candidate panel using candidate name, party and constituency information. Dots represent the local average of the outcome variable, calculated within 1 percentage point bins of the running variable. Continuous lines are a 4th order polynomial fit.

Figure A.10: **Identifying descendant effects using redistricting**



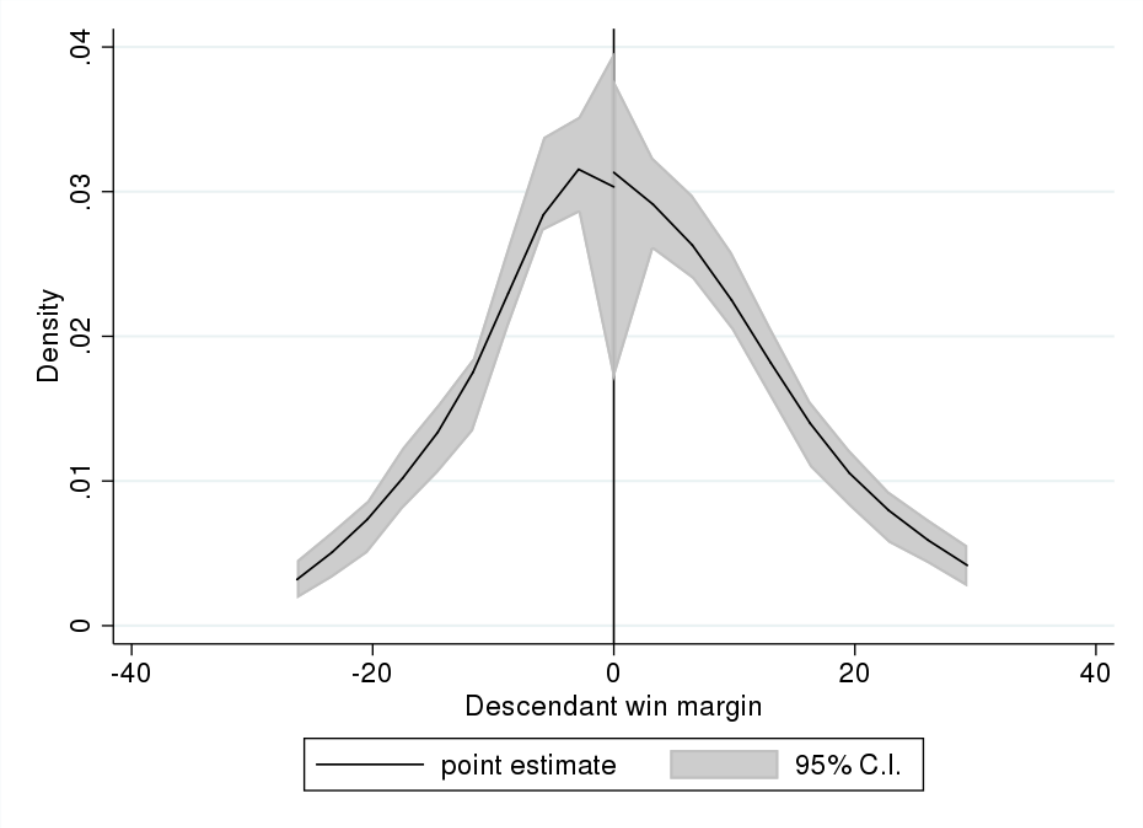
This figure presents results on the economic effects of dynastic founders, identified using changes to constituency boundaries. The graph shows estimates of β from the equation $y_i = \alpha + \beta \cdot Years\ descendant\ rule_i + Previous\ constFE + Controls_i + \epsilon_i$. *Years descendant rule* is the key independent variable and refers to the total number of years village *i* has been represented in parliament by a descendant of an MP. Data on poverty measures comes from the Socioeconomic and Caste Census and information on constituency boundaries comes from MLInfoMap. *Wealth percentile* is constructed using measures of poverty from the Socioeconomic and Caste Census. The variables used to construct the index are: (i) *Earns > Rs 5k*: the share of households earning over Rs 5000 (≈US$70) per month, (ii) *Brick house*: the share of households in a village living in a structure with at least a brick or concrete wall and roof, (iii) *Fridge* and *Vehicle*: the share of households in a village who own these assets. We take the pricnipal component of these variables and assign villages a percentile rank (between 0 and 1) based on their index score. *Public goods rank* is a village's percentile rank based on public good availability. We construct a public goods index by (i) constructing dummy variables indicating availability of public goods for five different categories, namely education, health, sanitation, communications and electricity, and (ii) taking the principal component of the 5 category indexes. Each village's public goods rank (0-1) is based on its public goods index score. All regressions includecontrols for the share of Scheduled Caste, Scheduled Tribe, General caste and tribal households, the total male and female population, and the fraction of adults. Standard errors are clustered at the constituency level.

Figure A.6: **Descendant effects — validity of close elections RD: covariate balance (village characteristics)**



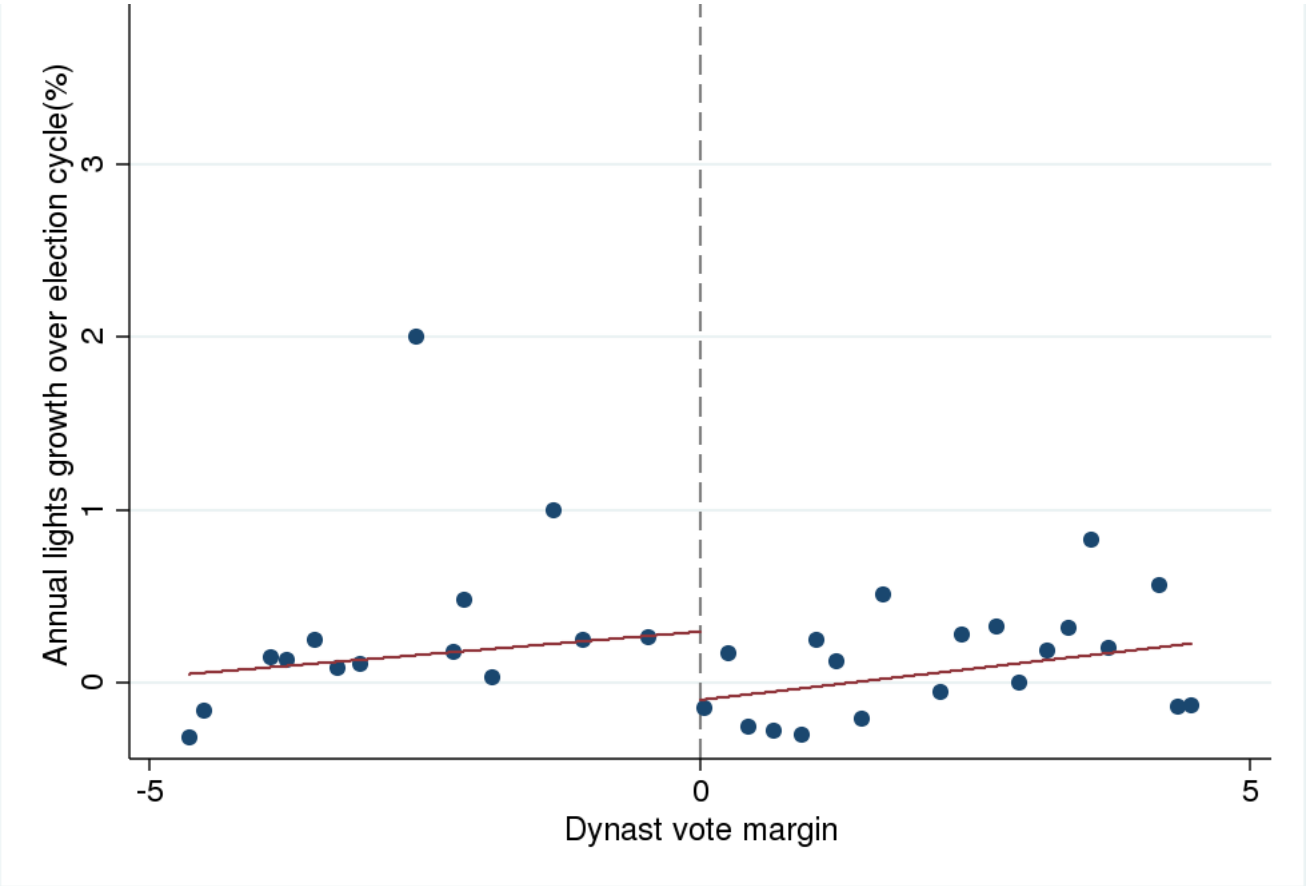
This figure presents plots from a regression discontinuity design specification. We restrict attention to elections where the top two candidates are a dynastic descendant and a non-dynast (or vice versa). The running variable is *Descendant win margin*, which is defined as the vote share of the dynastic descendant minus the vote share of non-dynast. The y-variable in each graph is a village characteristic. Data on village demographics, location and public good availability come from the Census of India 2001. *Share female* and *Share Scheduled Caste or Tribe* denote the share of each village's population that is female or from a socially disadvantaged caste or tribe group. A list of these groups is provided in a schedule of the Indian Constitution. *Log Dist to town* is the natural logarithm of the distance from the village to the nearest town, as listed in the Census. *Public goods rank* is a village's percentile rank based on public good availability. We construct a public goods index by (i) constructing dummy variables indicating availability of public goods for five different categories, namely education, health, sanitation, communications and electricity, and (ii) taking the principal component of the 5 category indexes. Each village's public goods rank (0-1) is based on its public goods index score. Dots represent the local average of the outcome variable, calculated within 1 percentage point bins of the running variable. Continuous lines are a 4th order polynomial fit.

Figure A.7: **Descendant effects — validity of close elections RD: McCracy density test**



This figure presents plots from a regression discontinuity design specification. We restrict attention to elections where the top two candidates are a dynastic descendant and a non-dynast (or vice versa). The running variable is *Descendant win margin*, which is defined as the vote share of the dynastic descendant minus the vote share of non-dynast. The y-variable is the density of the running variable around the cutoff. Continuous lines are a 4th order polynomial fit, and the shaded area is a 95% confidence interval.

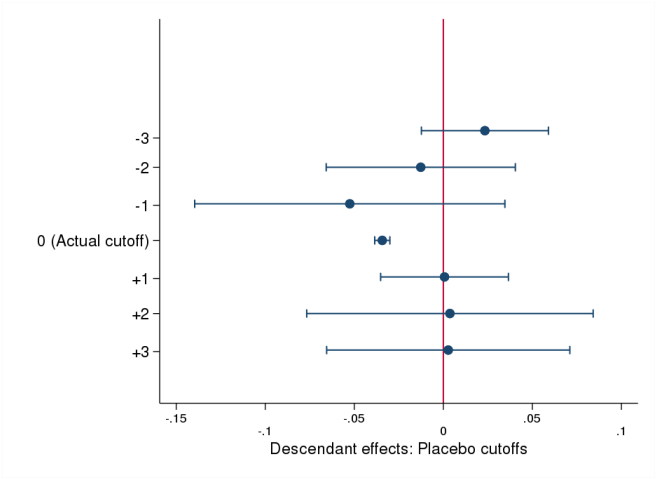
Figure A.8: **Descendant-ruled areas show slower night-time lights growth**



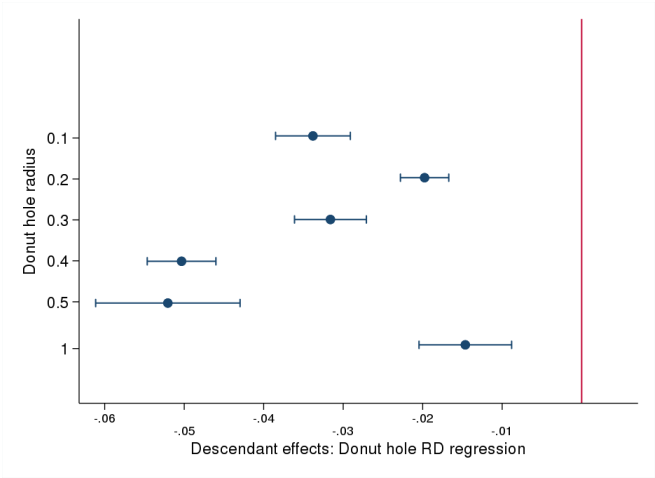
This figure presents plots from a regression discontinuity design specification. We restrict attention to elections where the top two candidates are a dynastic descendant and a non-dynast (or vice versa), and estimate the specification $y_i = \alpha_{district} + \beta \cdot Years\,descendant\,rule_i + f\,(Descendant\ margin_i) + \gamma X_i + \varepsilon_{it}$. The running variable is *Descendant win margin*, which is defined as the vote share of the dynastic descendant minus the vote share of non-dynast. The y-variable is the growth in night light intensity in a village during the electoral term (eg. 2004-09). Dots represent the local average of the outcome variable, calculated within 1 percentage point bins of the running variable.

Figure A.9: **Descendant effects: RD robustness checks**

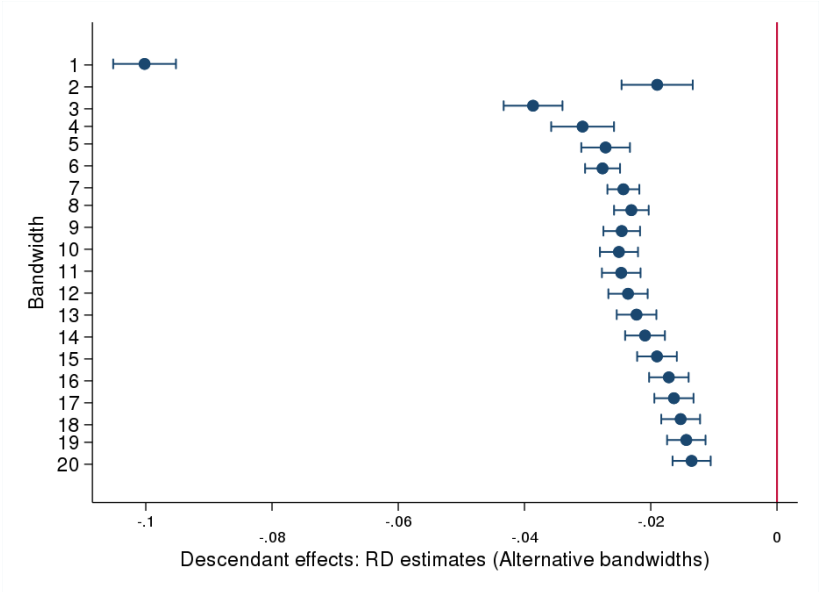
(a) Placebo cutoffs



(b) "Donut" hole RD regression

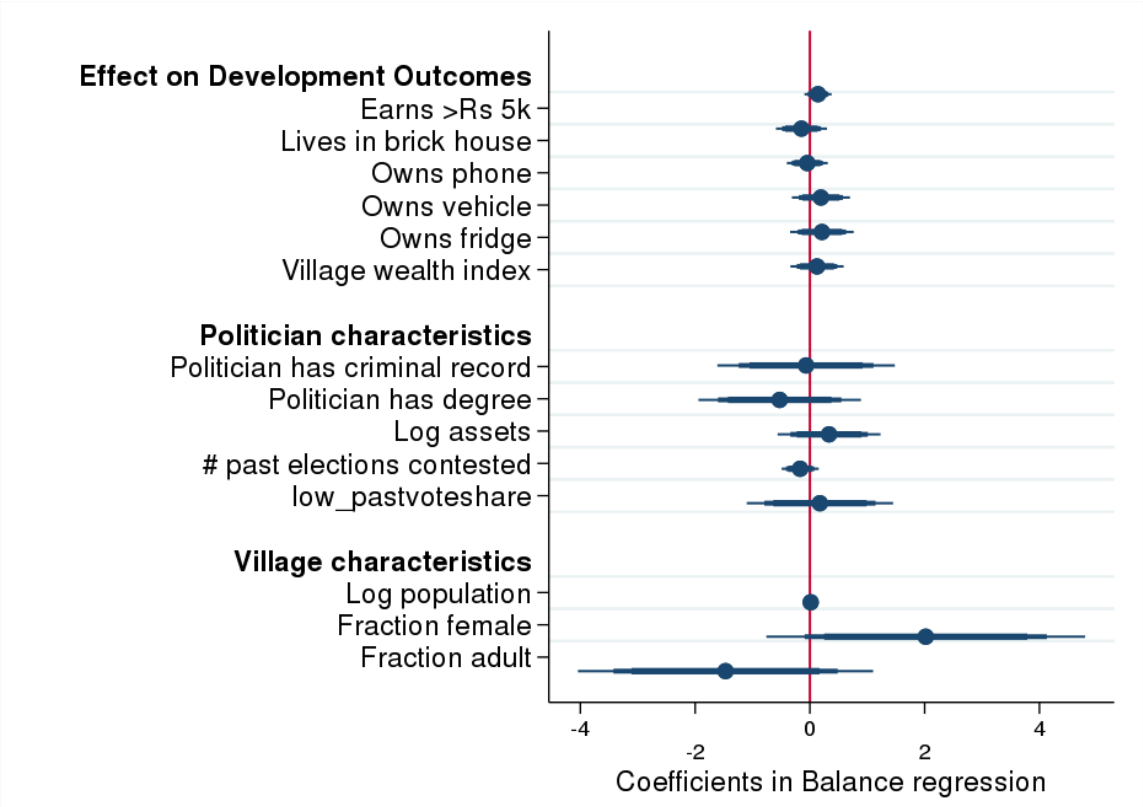


(c) Alternative bandwidths



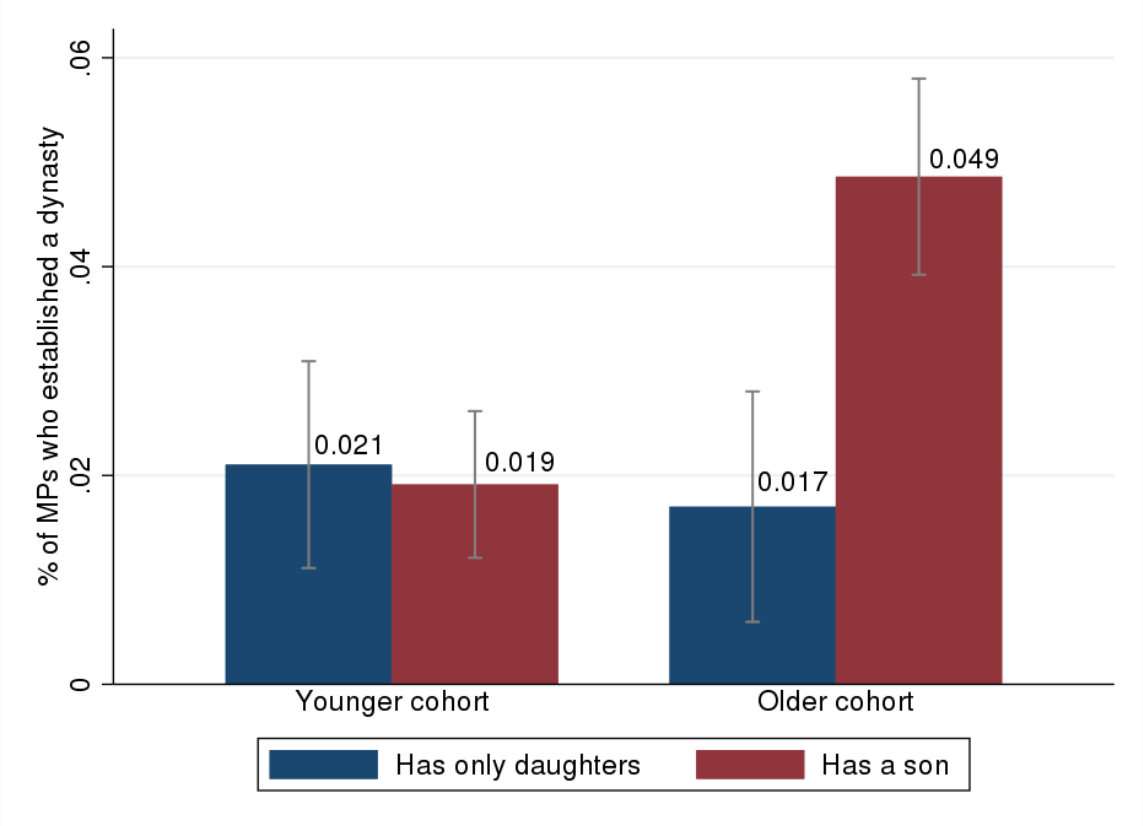
This figure presents coefficients from a regression discontinuity design specification. We restrict attention to elections where the top two candidates are a dynastic descendant and a non-dynast, and estimate the specification $y_i = \alpha_{district} + \beta \cdot Years\ descendant\ rule_i + f(Descendant\ margin_i) + \gamma X_i + \varepsilon_{it}$, where $f(\cdot)$ is a local linear polynomial. The dependent variable in all graphs is the *Wealth percentile* of a village, which is an index based on the principal component of underlying dummies indicating whether a household earns above Rs 5000 per month, lives in a brick house and owns a fridge, phone and vehicle. Data comes from the Socioeconomic and Caste Census. The running variable, *Descendant win margin*, is defined as the vote share of the dynastic descendant minus the vote share of non-dynast. Controls include the share of Scheduled Caste, Scheduled Caste, General Caste and tribals in the village, the total male and female population and the fraction of adults. The first graph presents estimates of the baseline RD specification with placebo cutoffs. The second graph presents estimates of the baseline RD specification with observations closest to the cutoff — within a "donut hole" radius — removed. The third graph presents results from the baseline RD specification where we vary bandwidth. Each dot represents an RD point estimate. The spikes indicate 95% confidence intervals.

Figure A.11: **External validity of RD — validity of party swing shock**



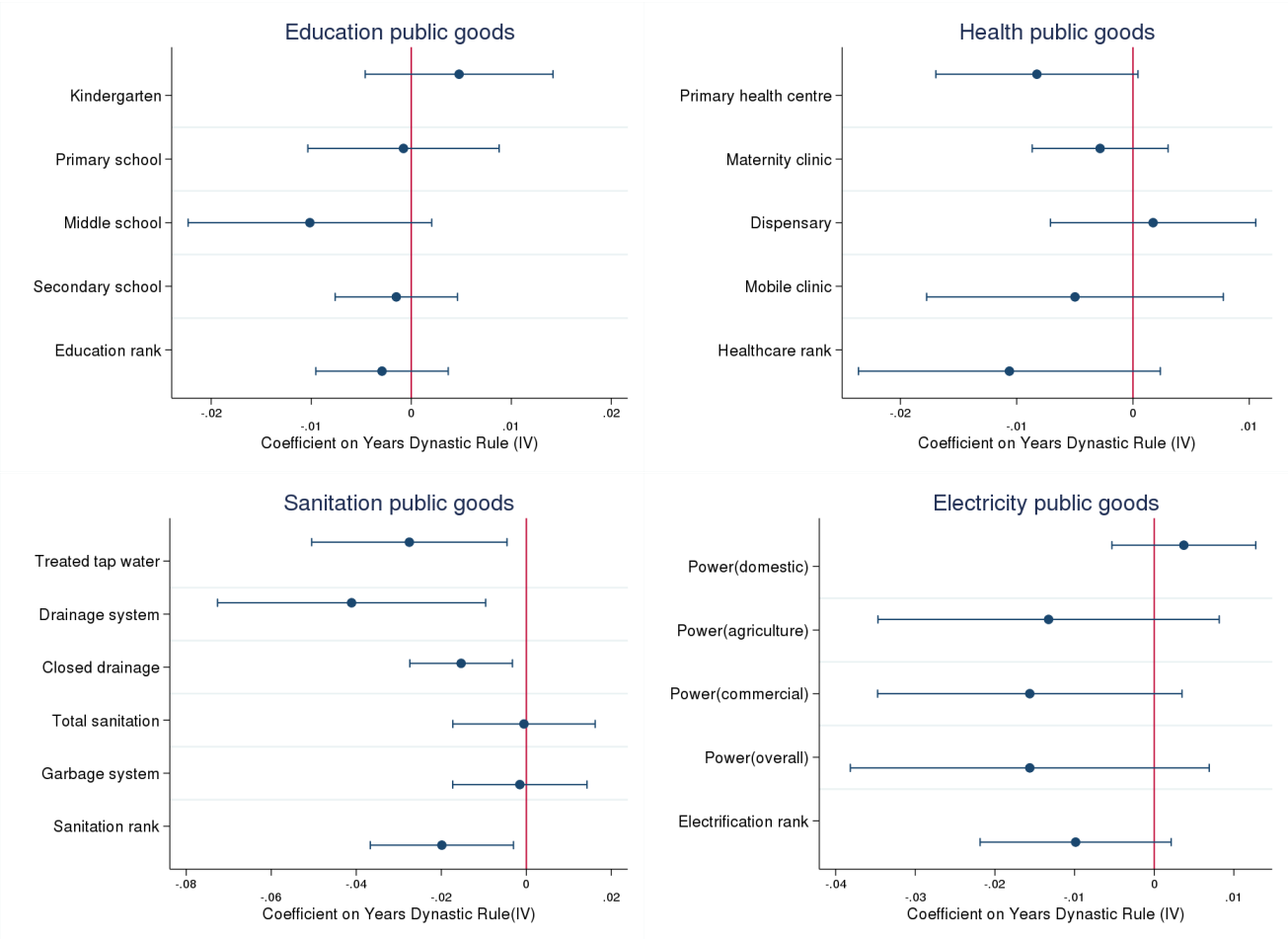
This figure presents coefficients from a balance regression. We estimate the specification $Party\,swing_i = \alpha_{district} + \alpha_{party} + \beta X_i + \epsilon_i$, and present estimates for β. The dependent variable is the all graphs is the "leave-one-out" party swing as defined in 2. *Wealth percentile* of a village, which is an index based on the principal component of underlying dummies indicating whether a household earns above Rs 5000 per month, lives in a brick house and owns a fridge, phone and vehicle. Data comes from the Socioeconomic and Caste Census. The running variable, *Descendant win margin*, is defined as the vote share of the dynastic descendant minus the vote share of non-dynast. Controls include the share of Scheduled Caste, Scheduled Caste, General Caste and tribals in the village, the total male and female population and the fraction of adults. The first graph presents estimates of the baseline RD specification with placebo cutoffs. The second graph presents estimates of the baseline RD specification with observations closest to the cutoff — within a "donut hole" radius — removed. The third graph presents results from the baseline RD specification where we vary bandwidth. Each dot represents an RD point estimate. The spikes indicate 95% confidence intervals.

Figure A.12: **Having a son predicts founding a dynasty for older cohorts**



This figure presents how the gender composition of a politician's children affect her probability of establishing a dynasty for politicians in different cohorts. The y-axis plots the fraction of politicians in each category who founded a political dynasty. A politician founds a dynasty if her descendants runs for political office. *Younger cohort* refers to politicians born after the median year of birth, which is 1950. *Older cohort* refers to politicians born before the median year of birth. For each cohort, the left bar denotes the fraction of politicians with only daughters who founded a dynasty, while the right bar shows the fraction of politicians with a son who founded a dynasty.

Figure A.13: **Long-run net impact of dynastic rule on public good provision**



This figure presents results on the effect of dynastic politics on public good provision. We estimate the equation $y_i = \alpha_{district} + \beta \cdot Years\ dynastic\ rule_i + \gamma X_i + \epsilon_i$. *Years dynastic rule* is the key independent variable and is defined as the total number of years village i has been represented in the national parliament by a dynastic founder (a politician whose relative subsequently held political office) or a dynastic descendant (a politician whose relative previously held political office). Each graph shows results on a particular category of public goods. Each individual plot is the coefficient β from a regression where that variable as y_i. The spikes represent 95% confidence intervals. Each variable is a dummy indicating the presence of that public good (eg. treated tap water system or primary health centre) in village i. For each public goods category, we also construct an index by taking the principal component of the underlying dummy variables and computing a village's percentile rank. Data is from the Census of India 2011. All regressions include district fixed effects, and controls for male and female population, geographical area, and the share of Scheduled Caste and Scheduled Tribe. Standard errors are clustered at the constituency level.

C Additional Tables

Table A.1: **Dynastic bias across occupations**

Occupation	(1) % in occupation if Father in occupation	(2) % in occupation if Father not in occupation	(3) Dynastic bias $= \frac{(1)}{(2)}$
(Unelected) Traditional village chief	1.2%	0.006%	200
(Elected) Legislator	**2.2%**	**0.02%**	**110**
Economist	2.5%	0.04%	63
Doctor	10.5%	0.2%	53
Army	7.0%	0.3%	23
Farmer	61.2%	7.0%	8.7
Average occupation	*39.9%*	*8.3%*	*4.8*

This table compares occupations on a simple measure of dynastic bias, using IPUMS-provided census microdata from all (30) democratic countries where legislators are listed as a separate occupational category. Column (1) shows an individual's probability of being in a given occupation if her father was in it. Column (2) shows an individual's probability of being in each listed occupation if her father was not in that occupation. We compute both conditional probabilities separately within country and then take the average across the countries in our sample.

Table A.2: **Voter preferences — Summary Statistics**

	Mean	Std dev
Agricultural loan availability	0.98	1.11
Electricity for Agriculture	1.13	1.16
Better price-realization for farm products	1.20	1.28
Irrigation Programmes	1.09	1.20
Subsidy for seeds and fertilizers	1.08	1.22
Accessibility of MP	1.96	0.81
Anti-terrorism	2.07	0.71
Better employment opportunities	2.33	0.76
Better electric supply	2.20	0.74
Better hospitals / Primary Healthcare Centres	2.15	0.80
Better Law and Order / Policing	2.16	0.78
Better public transport	2.26	0.79
Better roads	2.22	0.76
Better schools	2.16	0.80
Drinking water	2.20	0.77
Empowerment of Women	2.19	0.78
Environmental issues	2.12	0.78
Eradication of Corruption	2.09	0.81
Reservation for jobs and education	2.12	0.76
Security for women	2.17	0.79
Strong Defence/Military	2.11	0.78
Subsidized food distribution	2.15	0.80
Training for jobs	2.14	0.76
Trustworthiness of MP	2.09	0.80
Other	1.10	1.16
Better garbage clearance	0.57	0.99
Encroachment of public land / lakes etc	0.57	0.98
Facility for pedestrians and cyclists on roads	0.59	1.02
Better food prices for Consumers	0.61	1.05
Traffic congestion	0.59	1.03
Observations	228025	

This figure presents summary statistics on voter preferences. Data comes from a survey administered by the Association of Democratic Reforms. Voters were asked, for each of the 30 issues above, how important the issue was to them on a scale of 1-3. Approximately 500 voters were surveyed in each constituency.

Table A.3: **Dynastic descendants are similar to non-dynasts in close races**

	Non-dynasts	Dynastic descendants	Diff	p-value
Age of politician	49.424	47.250	-2.174	0.070
Politician has criminal record	0.217	0.193	-0.023	0.553
Politician has degree	0.571	0.533	-0.038	0.425
Log Assets	16.320	16.675	-0.355	0.447
# past elections contested	1.083	1.184	0.101	0.535
# past elections won	0.567	0.665	0.098	0.377
Average vote share in past elections	34.661	37.425	2.764	0.121
Politician is from major party	0.908	0.925	0.017	0.534
# of observations	*217*	*212*		

This table presents summary statistics on characteristics of non-dynasts and dynastic descendants in close elections. We restrict the sample to elections where (i) the top two candidates are a non-dynast and a dynastic descendant, and (ii) the difference in vote shares between the top two candidates is less than 5%. Data on politicians' criminal charges, education qualifications and wealth comes from affidavits that all candidates file when submitting their nomination papers. *Politician has criminal record* is a dummy variable indicating whether the politician had outstanding criminal charges at the time of the election. *Politician has degree* is a dummy variable indicating whether the politician completed a university degree in any subject. *Log assets* is the natural logarithm of the total Rupee value of a politician's liquid and illiquid assets as disclosed on the affidavit. *# past elections contested*, *# past elections won* and *Average vote share in past elections* are measured by constructing a candidate panel using candidate name, party and constituency information. *Politician is from major party* is a dummy variable indicating whether the politician is contesting on the ticket of a state or national party, as classified by the Election Commission of India.

Table A.4: **Marginal vs Average: Descendant characteristics by win margin**

	Sample of dynastic descendants			
	Win margin < 5%	Win margin > 5%	Diff	p-value
Age	47.25	46.25	-0.999	0.301
Politician has criminal record	0.19	0.16	-0.038	0.223
Politician has degree	0.53	0.52	-0.009	0.817
Log assets	16.68	16.92	0.241	0.534
# Past elections contested	1.18	1.05	-0.137	0.336
# Past wins	0.67	0.61	-0.053	0.593
Avg vote share in past elections	37.43	39.44	2.014	0.186
Major party	0.93	0.94	0.019	0.367
Father's average vote share	25.6	26.4	0.751	0.645

This table compares marginal dynastic descendants, who win in close races, against descendants who win by larger vote margins. Data on age, criminal status and education qualifications comes from affidavits that all candidates file when submitting their nomination papers. *Politician has criminal record* is a dummy variable indicating whether the politician had outstanding criminal charges at the time of the election. *Politician has degree* is a dummy variable indicating whether the politician completed a university degree in any subject. *Log assets* is the natural logarithm of the total Rupee value of a politician's liquid and illiquid assets as disclosed on the affidavit. *# past elections contested*, *# past wins* and *Average vote share in past elections* are measured by constructing a candidate panel using candidate name, party and constituency information. *Major party* is a dummy indicating whether the candidate represented a national or state party, as defined by the Electoral Commission of India. *Father's average vote share* is the average vote share of the descendant's father.

Table A.5: **Covariate balance — Redistricting**

	Village remained in constituency	Village switched constituency
Earns above 5k	0.260	0.241
Brick house	0.302	0.321
Owns fridge	0.0869	0.0855
Owns phone	0.678	0.666
Owns vehicle	0.189	0.200
Wealth percentile	0.496	0.496
Share Scheduled Caste	0.169	0.161
Average age	28.40	28.44

This table compares the characteristics of villages that were "treated" by redistricting (ie. that were moved into a different constituency) against villages that remained in their original constituency. *Earns > Rs 5k* is the share of households earning over Rs 5000 (≈US$70) per month. *Brick house* is the share of households in a village living in a structure with at least a brick or concrete wall and roof. *Fridge, Phone* and *Vehicle* respectively denote the share of households in a village who own these assets. *Wealth index* is constructed by taking the principal component of the dependent variables in columns (1)-(5) and assigning villages a percentile rank (between 0 and 1) based on their index score. *Share Scheduled Caste* gives the percentage of each village that are from a disadvantaged caste or tribe community. *Average age* is the average age of individuals in the village.

Table A.6: **OLS relationship between dynastic rule and development**

Panel A: Poverty (OLS)

	(1) Earns > Rs 5k	(2) Brick house	(3) Fridge	(4) Phone	(5) Vehicle	(6) Wealth index
Years dynastic rule	0.000197	0.00000794	0.000324*	0.000670*	-0.0000917	0.000259
	(0.000292)	(0.000519)	(0.000178)	(0.000350)	(0.000356)	(0.000417)
Adj R^2						
N						

Panel B: Public Good Provision (OLS)

	(1) Education	(2) Healthcare	(3) Sanitation	(4) Connectivity	(5) Electricity	(6) Public Goods index
Years dynastic rule	0.000371	0.000254	0.000771**	0.000773**	0.000635*	0.000825***
	(0.000246)	(0.000288)	(0.000359)	(0.000321)	(0.000331)	(0.000282)
Adjusted R^2	0.375	0.267	0.474	0.350	0.651	0.516
N	358910	360616	357715	357690	303567	301826

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

This figure presents results on the OLS relationship between village development outcomes and exposure to dynastic rule. We estimate the equation $y_i = \alpha_{district} + \beta \cdot Years\,dynastic\,rule_i + \gamma X_i + \epsilon_i$. *Years dynastic rule* is the key independent variable and is defined as the total number of years village i has been represented in the national parliament by a dynastic founder (a politician whose relative subsequently held political office) or a dynastic descendant (a politician whose relative previously held political office). Panel A presents results on measures of poverty from the Socioeconomic and Caste Census. Each outcome variable denotes the share of households in a village that meets a particular wealth criterion. *Earns > Rs 5k* is the share of households earning over Rs 5000 (≈US$70) per month. *Brick house* is the share of households in a village living in a structure with at least a brick or concrete wall and roof. *Fridge, Phone* and *Vehicle* respectively denote the share of households in a village who own these assets. *Wealth index* is constructed by taking the principal component of the dependent variables in columns (1)-(5) and assigning villages a percentile rank (between 0 and 1) based on their index score. All regressions include district fixed effects, and controls for the share of Scheduled Caste, Scheduled Tribe, General caste and tribal households, the total male and female population, and the fraction of adults. Standard errors are clustered at the constituency level. Panel B presents results on public good provision. The outcome variable in columns (1)-(5) is a village's percentile rank in terms of public good availability for a specific category. We code dummies reflecting the availability of specific public goods using data from the Census of India 2011 and construct an index based on the principal component of the underlying dummies. The *Education* index is based on the availability of primary, middle and higher secondary schools. The *Healthcare* index is based on the availability of a primary health centre or subcentre, a dispensary, TB clinic, and maternity health centre. The *Sanitation* index is based on the existence of a treated tap water, drainage and garbage collection system. The *Connectivity* index is based on the availability of roads within the village and connecting it to highways, public bus services and railway stations. The *Electricity* index is based on the daily electricity supply to domestic, agricultural and commercial users in the village. The overall *Public Goods* is the principal component of the underlying indices. All regressions include district fixed effects, and controls for male and female population, geographical area, and the share of Scheduled Caste and Scheduled Tribe. Standard errors are clustered at the constituency level.

Table A.7: **Effect of Dynastic Descendants on Night Lights Growth**

	Depvar: village-level night lights growth				
	(1)	(2)	(3)	(4)	(5)
Descendant win	-0.426***	-0.497***	-2.067***	-0.534*	-0.217
	(0.0948)	(0.131)	(0.745)	(0.301)	(0.216)
Bandwidth	5%	3%	1%	5%	5%
District FE	No	No	No	Yes	No
Subdistrict FE	No	No	No	No	Yes
Observations	12375	6406	2264	12346	12271

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

This table presents estimates of the effects of dynastic descendants on poverty, public good provision and voters' assessment of governance, identified using a a close elections RD design. We restrict attention to elections between a dynastic descendant and a non-dynast, and compare villages located in constituencies where a descendant narrowly won against villages in constituencies where a descendant narrowly lost. We estimate the specification $Y_i = \alpha + \beta \cdot Descendant\ win_i + f\left(Descendant\ margin_i\right) + \gamma X_i + \varepsilon_{it}$. The outcome variable is night lights growth during the electoral term (eg. between 2004 and 2009 for a politician elected in 2004 for a 5 year term). All regressions include controls for male and female population, geographical area, and the share of Scheduled Caste and Scheduled Tribe. Standard errors are clustered at the constituency level.

Table A.8: **Is Dynastic Advantage due to Name Recognition? Test using Celebrity Politicians**

	Vote share	Voter assessed performance (1-3)	
	(1)	(2)	(3)
Celebrity	0.0210	-0.0834	
	(0.0173)	(0.159)	
Descendant	0.0245***		-0.185***
	(0.00778)		(0.00630)
Estimation	Fixed effects	RD	RD
N	228025	227976	227976

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

This table compares the electoral and in-office performance of dynastic descendants and non-dynastic politicians who are celebrities. Column 1 presents results from the specification $Y_i = \alpha_{party} + \alpha_{state} + \beta_1 Celebrity_i + \beta_2 Descendant_i + \gamma X_i + \epsilon_i$. The outcome variable is vote share. The key X variables are *Celebrity* and *Descendant*, which are respectively dummies for politician i being a celebrity (film star, sportsperson or music artist) or a dynastic descendant. Column 2 presents results from a regression discontinuity design specification. We estimate the regression $y_i = \alpha_{district} + \beta \cdot Celebrity\,win_i + f\,(Celeb\,win\,margin_i) + \gamma X_i + \varepsilon_{it}$. *Celebrity win margin* is the running variable, and is defined as the vote share of the celebrity politician minus the vote share of the non-celebrity. The outcome variable is *Voter assessed performance,* which is a subjective assessment of politician performance, which comes from the Association for Democratic Reform's survey of voters. Voters rate their MP's performance on 30 issues: they are asked to rate, on a scale of 1-3, how important the issue is to them and how well their MP performed on it. We constructed a weighted average performance score for each politician based on these individual assessments. Column 3 presents results from the analogous specification comparing descendants against non-dynasts. We estimate he top two candidates are a descendant and a non-dynast, and estimate the regression $y_i = \alpha_{district} + \beta \cdot Descendant\,win_i + f\,(Descendant\,margin_i) + \gamma X_i + \varepsilon_{it}$. *Descendant margin* is the running variable, and is defined as the vote share of the celebrity politician minus the vote share of the non-celebrity. The outcome variable remains *Voter assessed performance.* All regressions include district fixed effects, and controls for the share of Scheduled Caste, Scheduled Tribe, General caste and tribal households, the total male and female population, and the fraction of adults. Standard errors are clustered at the constituency level.