

A Palimpsest of the Past?

Colonial Land Revenue System and Criminal Politicians in Contemporary India

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Abstract

It is well documented in the literature that British policies had a lasting impact on the development outcomes of post-independent India. Following the pioneering work of Banerjee & Iyer (2005), this study documents a persistent effect of the colonial land revenue system (1793-1947) on the recent political outcomes of India (2004-17). An Instrumental Variable strategy is deployed to tackle the potential endogeneity issues and the key results from the benchmark IV estimates suggest that a 1 standard deviation increase in the Non-Landlord proportion is associated with a 0.241 standard deviation reduction in criminal charges and similarly, a 1 standard deviation increase in the Non-Landlord dummy is associated with a 0.190 standard deviation reduction in criminal charges against the politicians who won the assembly elections from 2004-17. The results endure the inclusion of district level characteristics and various robustness exercises.

Keywords: institutions, political economy, comparative development.
(JEL D72, O12,P16, P51)

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“...Indian democracy, which is the world’s largest democracy, has seen a steady increase in the level of criminalization that has been creeping into the Indian polity. This unsettlingly increasing trend of criminalization of politics, to which our country has been a witness, tends to disrupt the constitutional ethos and strikes at the very root of our democratic form of government....” Supreme Court of India, September 2018.¹

1 Introduction

There is a rich scholarship that documents how history has persistent effects on the contemporary development outcomes of the countries through its influence on the institutions. In a pioneering set of studies, Acemoglu et al. (2001, 2002) [1][2] provide cross-country evidence of this persistence. The importance of history in determining the modern day quality of institutions is pivotal in the seminal studies initiated by La Porta et al. (1998, 1999, 2000) [27][25][26] which provide evidence of how the legal origins of the colonizers can be perceived as a fundamental determinant of the quality of institutions which endure in the former colonies. However, as rightly acknowledged in the various studies, the colonial experience for each country basks in a unique cultural, historical and political setting. In a landmark study, Banerjee & Iyer (2005) [Henceforth, B-I (2005)] [9] further the enquiry in the same spirit and focus on one specific historical institution in a more narrow setting – the system of land revenue established by the British during their colonial rule in British India (henceforth, India), which started in 1793 with the permanent settlements act and lasted until India’s independence in 1947. They find convincing evidence of what they term as a *‘Colonial Hangover’* as they observe that those modern day districts of India which were placed under the Landlord Taxation system² performed relatively poorly for a multitude of development indicators such as agricultural investment and yield, investments in health and education, literacy rates and crime rates as compared to the districts which were placed under the Non-Landlord Taxation System.³

With this premise, an important progression to this line of thought would be to contemplate on the mechanisms through which the historical institutions exhibit some degree of adamance. In their article, B-I (2005) [9] do suggest a lack of collective action in the landlord areas fuelled from a *‘class-based antagonism’* as a plausible factor to explain the persistence, however, there is a paucity of formal enquiry which corroborates the state-

¹Public Interest Foundation vs Union Of India on 25 September, 2018

²It was also known as the *Zamindari System*. It was a form of taxation system where a local elite or chieftain from the village (appointed by the British) was responsible for collecting tax revenues from the villagers.

³They were mainly of the two types: *Rayyatwari System* and *Mahalwari System* wherein the individual cultivators had to provide taxes either directly to the British or through a group of villagers appointed from within that village.

ments. An important contribution of this article would be to pursue this line of enquiry.

Whereas the previous literature identifies colonial institutions as an underlying cause for disparate levels of development witnessed by the different regions of India, Prakash, Rockmore & Uppal (2019) [Henceforth, PRU (2019)] [32] provide clues about a more proximate cause of such heterogeneity in the development outcomes as they find a causal impact of the quality of politicians (measured by crime record of the candidates) on the GDP growth rates (proxied by night light intensity). Consistent with the apriori expectations, they estimate that those constituencies which narrowly elect a candidate with criminal charges witness a 24 percentage-point plunge in the growth of night light intensity. In addition, they find evidence of lower levels of public good provision in these constituencies. Similarly, Nanda & Pareek (2016) [30] observe that narrowly electing an accused politician leads to a sharp decline in private sector investment in India and, Chemin (2012) [19] estimates a decline in the monthly per-capita consumption by the precarious sections of the India society, i.e. those who belong to the historically disadvantaged castes. The link between institutions and the incidence of criminality in Politics has also been explored by Prakash et. al. (2022) [33] where they study the impact of criminally accused leaders on first-order outcomes such as law and order and incidence of the various types of crimes. They document that electing criminally accused leader in the Indian states with historically weaker institutional or state capacities⁴ have a greater impact on the incidence of crime in these states as compared to the other Indian states.

Robinson & Verdier (2013) [35] provide a theoretical framework which posits that developing countries are usually associated with clientelist or patronage politics, which leads to higher levels of rent-seeking and mis-allocation of resources by the elected representatives. Bardhan & Mookherjee (2012) [13] make a similar proposition and find evidence from the state of West Bengal, India that patronage politics leads to a lower provision of public goods and a lack of long-run investments. Alesina & Zhuravskaya (2011) [3] find a causal linkage between degree of segregation and quality of government in a cross-country study and they observe that ethnic voting to be one of the dominant channels through which the quality of government is undermined in the more segregated societies. Markussen (2011) [28] corroborates the above proposition by providing empirical evidences from India that less segregated regions have greater immunity from political clientelism and Asher & Novosdud (2017) [6] estimate how the prevalence of such type of politics compromises the local economic growth across India.

Banerjee & Pande (2007) [12] highlight how voter ethnicization in India leads to a se-

⁴The States which are classified as weak institution states are Bihar, Madhya Pradesh, Rajasthan, Odisha and Uttar Pradesh, which are also commonly referred to by the acronym 'BIMAROU.'

vere compromise in the quality of the elected leaders and according to their empirical investigation on the Indian state of Uttar Pradesh, a majority of the spike in corruption is attributable to the prevalence ethnicity based politics. It is important to realize that the Indian society, heavily fragmented on the basis of both religious and caste identities is easier to polarize and hence, a fertile ground for the practice of such forms of identity-based politics. Banerjee & Somanathan (2007) [10] find evidence that various disadvantaged groups of India could enhance their welfare and divert resources for their cause through political mobilization. Thus, it is unsurprising that post-independence, an increasing number of political parties which pledge allegiance to a particular ethnic group have emerged in the Indian political landscape over the years. Borrowing a thought from Besley (2005) [14], it is important to understand how political selection works and more importantly, to investigate the source of the crevices in the institutional structure that shapes incentives and fails to provide restraint to the individuals who are in positions of power. This understanding is particularly pivotal for the developing countries, and more specifically, in context of India, which is plagued by ubiquitous prevalence of corrupt and criminal politicians who are responsible for compromising the country's growth trajectory in exchange of their personal rent seeking. Besley & Burgess (2002) [15] posit that having more informed electorates acts as a natural restraint on the incumbents and nudges the government to be more responsive to the needs of the voters in their constituencies. Banerjee et al. (2011) [11] conducted a randomized study in India where the voters in the treatment group received information (in the form of a report card) about the candidates from their respective constituencies. They found a noticeable spike in the voter turnouts, less incidence of vote-buying and also candidates with higher qualifications in getting elected on an average as compared to the control group. Hence, the prevalence of information asymmetry in the constituencies might provide us with some additional clues about the reasons for the current state of the Indian polity.

An important contribution of this article would be to conduct an empirical exercise under a common framework – the 'Colonial Institutions Persistence' theory as spearheaded by B-I (2005) [9] in case of India and the 'Political Selection' stream of literature, which is postulated by PRU (2019) [32] and the other complementary articles which were discussed above. Whereas both the streams of literature try to examine the potential causes of underdevelopment across India, there is certainly a missing link between the two theories that has been left unaddressed in the literature.

Whereas two hundred years of British rule indeed defined disparate starting points for the different regions of India depending on their specific interactions with the colonial institutions, it doesn't necessarily imply that the outcomes are irreversible. Moreover, it would be worthy to acknowledge that post-independence (August, 1947), India has

experienced some major reforms in the areas of health, education, agriculture and financial markets. Especially in the past thirty years post the liberalization of the economy in 1991, India has experienced massive surge in GDP growth rates of around 10% per annum. Thus, it would be prudent to update the findings of B-I (2005) [9] with the post 1991 outcomes, which would be another minor contribution of this article.

The rich repository of scholarship which attempts to explain the incongruence in the development outcomes across the different regions of India has 'Low Political Equilibrium' at the heart of the propositions, such as that observed in PRU (2019) [32]. Hence, it would be plausible to expect the political channel to be a dominant theoretical proposition to explain the colonial drag in the modern development outcomes. To put it more succinctly, I would examine in this article whether the fact of being subjected to the Landlord Taxation system has a significant impact on the likelihood of electing lower quality politicians. Data sets from SHRUG (2021) [5] and PRU (2019) [32] enables me to estimate the quality of political candidates in the various constituencies as they have compiled information on the crime record, assets, liabilities and educational qualifications of all the candidates who have contested the state assembly elections since the year 2003. Historical Data on district level characteristics and information on colonial land revenue systems are obtained from B-I (2005) Database [9] and Roy (2014) [37]

To tackle with the potential endogeneity issues, I deploy an Instrumental Variable approach wherein the fact of being conquered in the period 1820-1856 by the British is used as an instrument to predict the proportion of the district having a 'Non-Landlord' form of revenue collection due to various historical arguments which would be explored later in this article. Throughout all our specifications, the fact that our Non-Landlord measure is negatively associated to the incidence of criminality in the modern day politics remains fairly stable. The benchmark IV estimates suggest that a 1 standard deviation increase in the Non-Landlord proportion is associated with a 0.241 standard deviation reduction in criminal charges and similarly, a 1 standard deviation increase in our Non-Landlord dummy is associated with a 0.190 standard deviation reduction in criminal charges against the politicians who won the assembly elections from 2004-17. Various robustness exercises are discussed in the paper - such as dropping the influential states such as Bihar and West Bengal, running regressions only with the districts where each Landlord district is neighbouring atleast one Non-Landlord district and in the dependent variable only the 'Serious Criminal Charges' are taken into consideration as the political outcome. In all of these exercises, the negative co-efficient on our key variable of interest, the Non-Landlord Measure, remains fairly stable. To corroborate the validity of our instrument some placebo tests with alternative specifications are also performed.

The paper is divided into the following sections – The first part provides a brief description of the colonial experience of India, a discussion on the legacy of the British rule in the post colonial period and finally an overview of the federal political system of India. In the second part I discuss the data and identification strategy followed by the results which are presented in the next section. In the fourth section I provide tests of alternate specifications and robustness checks to test the validity of my results and in the final section I provide concluding remarks and policy implications of my findings.

2 Data and Descriptive Statistics

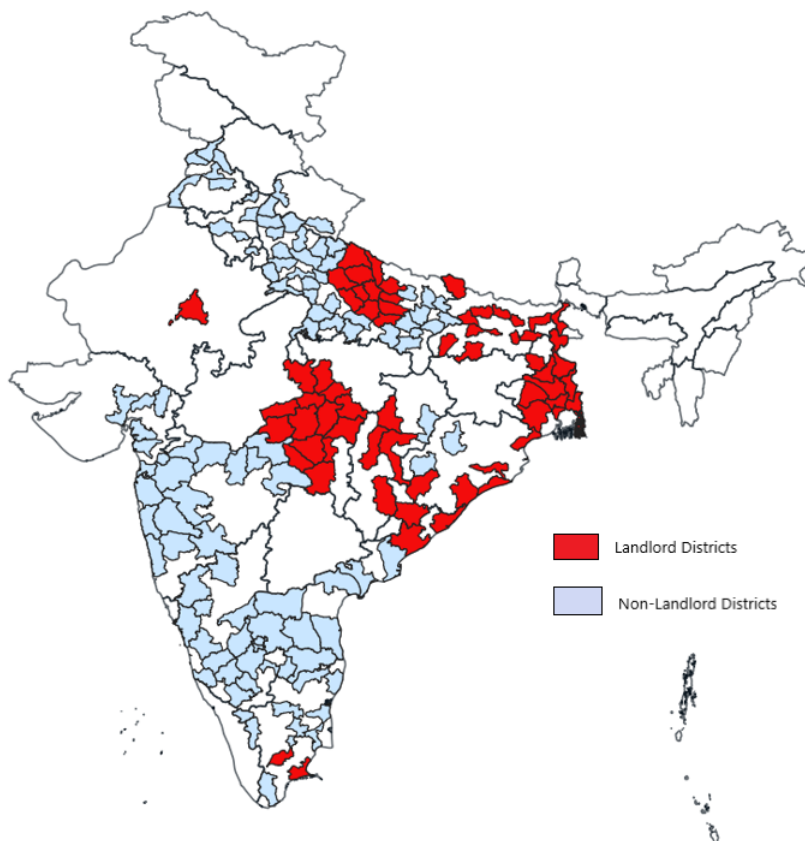
The focus of this article is to contemplate on the historical causes of a contemporary outcome - the incidence of criminality among the Indian politicians. Likewise, for this study I combine both historical as well as modern data sources for the analysis. For information on the colonial land tenure systems, I rely on the B-I(2005)[9] data set, which is made available in the American Economic Review data repository. This data set contains our key variable of interest - The Proportion of land in a district which was subjected to a Non-Landlord Taxation system during the British Rule. This dataset also provides us with the year of annexation, reason for annexation as well as provides us with the vital identifiers such as Name of the historical province and historical districts - which are matched to 1991 districts by the authors. The second source of historical data used for this analysis is obtained from Roy (2014). [37] This dataset is a digitized version of Imperial Gazetteer of India (1908) [22] which provides information on area, rainfall, population, land revenue, irrigation and railway infrastructure of the districts, literacy rates and length of well-built roads. Thus, it allows us to enrich our analysis by allowing us to incorporate some important historical confounders that might be potentially driving our results.

To proxy the incidence of criminality among the politicians I exploit the Supreme Court Mandate (2003)⁵ which requires all candidates of the assembly elections to explicitly state their criminal records in a sworn affidavit. This database is regularly updated and released publicly by an Independent Election watchdog in India - Association of Democratic Reforms (ADR).⁶ The dependent variable constructed for this analysis engenders from the SHRUG (2021) [5] data which combines both the ADR Dataset and data from PRU (2019) [32], hence giving us a comprehensive data for criminal charges against the electoral candidates along with information about their individual

⁵Supreme Court Judgement. People's Union of Civil Liberties v/s Union of India. 13 March 2003.

⁶ADR is a non-governmental independent organisation which conducts audits of the candidate affidavits for both parliamentary and assembly elections. It regularly updates and maintains a record of Criminal, Financial, Educational and Income Tax details of the candidates from the Election Commission of India database.

characteristics such as level of education, assets, liabilities and so on, from 2004-2017. Though some of my specifications in the robustness checks section includes information on the non-winner candidates as well, the benchmark specification only restricts the sample to the winners of the assembly election, thus highlighting the fragility of the political institutions of the that district on two accounts - On one hand there is a supply of criminally accused politicians, on the demand side, the fact of being criminally accused does not hamper the electoral outcome of that candidate. Moreover, this is also done to avoid too much noise in our dependent variable and focus only on those candidates who were given the mandate by the voters in the democratic system.⁷ Each winner politician from a given year of Assembly Election is associated to a unique assembly constituency id - However, after 2008, the assembly constituency boundaries have been completely redefined by the Election Commission of India, making it impossible for us conduct our analysis at this level of aggregation. Hence, each assembly constituency has been assigned the 2011 Census district codes for the sake of uniformity.



⁷In the Appendix A.4 and A.5, specifications which take into account all the candidates who contested for the assembly elections from 2004-17 have also been explored.

Figure 1: This is a Map of India with 2011 district boundaries, marked with the corresponding colonial land revenue system which was implemented in the pre-independence period. In this analysis, major states such as Assam, Himachal Pradesh, Jammu and Kashmir, and Kerala have not been covered due to paucity of data and are left blank in this map. Also, the other unmarked regions represent the autonomous or the princely states, which were ruled indirectly by the British (which is out of scope for this study). It should be duly noted that although the colonial land revenue systems are represented in a binary form in this map, I would also be using a continuous measure of the land revenue system in my analysis. Source: Author's own calculation.

A comprehensive set of controls are included in the model in order to mitigate the risk of potential confounders driving my results. The DHS (2016) ⁸ database has been used to obtain a wide-ranging set of socio-economic controls as well as geographic controls at the district level. Since accurate income or GDP data for India is hard to attain at the district level, Nightlight intensity is used as a proxy for district level control of economic performance (following the approach of the research such as PRU (2019) [32], Michalopoulos & Papaioannou [29]). Also, a host of socio-economic indicators such as the data on caste, religion and literacy rates, obtained from the SHRUG (2021) [5] database.

The district boundaries and names have changed substantially in the past 200 years, however, it is possible to match the historical and recent district boundaries, since there hasn't been a radical redefinition of the districts, rather, just simple disintegration of the parent districts into smaller districts over the years. For the current study, I assigned a unique identification code to each of the historical districts and matched it to the 2011 Indian census district codes. For instance, present day districts such as Tiruvannamalai, Vellore, Tirupattur and Ranipet which have unique 2011 district codes have been assigned a common district id for its parent district, North Arcot - which was a former district in the Madras presidency during colonial rule. The final dataset contains a list of 5,243 assembly election winners matched to 265 historical districts - comprising of provinces which were both under the direct rule of the British Empire as well as some districts which were indirectly ruled and were the princely states. Out of this sample, 1,618 winners are charged with one or more criminal charges and 531 politicians charged with serious criminal charges. However, my analysis is only confined to those districts which were directly subjected to the colonial land revenue system - hence, my benchmark specification, which is the most demanding one as it contains all the set of controls as well as the battery of fixed effects comprises of 2,504 data points from 114 colonial districts. Conducting the analysis at the district level has some merits which are noteworthy - Firstly, after independence, the various provinces of British India, were re-organized and the modern Indian States were formed mostly on

⁸Demographic and Health Surveys, India (2016). Funded by USAID. Rockville, Maryland: ICF

a linguistic basis.⁹ Hence, a State-level analysis would most certainly lead to a major aggregation problem

Before proceeding to the formal analysis, it would be useful to take a quick glance at the average politician characteristics across the districts which are classified as Landlord Districts against that of Non-Landlord Districts. From [Table 1](#), it can be observed that on an average, the incidence of having an assembly election winning candidate with criminal records is higher in case of Landlord Districts as compared to the Non-Landlord districts. For a sense of brevity, the comparison of the geographical, historical as well as socio-economic characteristics are presented in the [Appendix A.1](#), however, a general observation would be that in all the aforementioned dimensions, there are indeed systematic differences between the two districts, giving us a preliminary clue about how the co-efficients for a standard OLS might be biased if the potential heterogeneities across these districts are not accounted for.

Table 1: Differences in Means: Winners of Assembly Elections (2004-17)

	Landlord Districts	Non-Landlord Districts	p-value
Age	50.658	50.107	0.117
Education	12.271	11.742	0.000***
Open Charges	1.919	1.612	0.080*
Bye-Election Winner	0.016	0.015	0.834
Serious Open Charges	0.134	0.103	0.004***
Possible Punishment	4.261	3.383	0.027**
Assets (Log)	15.479	16.652	0.000***
Liabilities (Log)	13.277	14.382	0.000***

The districts are classified as Non-Landlord if the proportion of the district subjected to Raiyatwari (Individual Level) or Mahalwari (Village Level) taxation system exceeds 50%.

3 Identification Strategy

In tandem with our research question, our goal in this study would be to compare the incidence of criminality among the Landlord and the Non-Landlord districts and more broadly, to understand how criminality in politics is associated with the heterogeneous institutions which were introduced by the British in the different regions of India as a matter of historical accidents. The Benchmark specification would be of the form:

$$y_{id} = constant + \beta NL_d + \tau P_d + \gamma G_d + \lambda H_d + \zeta S_d + FE_{state} + FE_{polparty} + \epsilon_{id} \quad (1)$$

⁹For more details, refer to States Reorganisation Act, 1956. [\[39\]](#)

Where, y_{id} is our measure of open criminal charges against the politicians 'i' of district 'd' who were the winners of the assembly elections from 2004-2017. In some of the specifications, I replace open criminal charges with 'serious criminal charges,'¹⁰ as the outcome variable of interest. NL_d is the historical measure of the proportion of the district 'd' which was not subjected to a Landlord system of taxation, or in other words, were under the Non-Landlord taxation systems such as *Raiyatwari* (Individual Level) or the *Mahalgwari* (Village Level) system. In the benchmark specification, the Non-Landlord control is a continuous variable taking values from 0 to 1, however, I also test for alternative specifications where the Non-Landlord control is a categorical variable, assigned a value 1 if the Non-Landlord proportion in the district is greater than or equal to 0.5, and 0 otherwise. I also include a wide array of controls such as the individual characteristics of Politicians P_d , such as age, level of education and assets.¹¹ The specification also includes controls for geographical characteristics of the district G_d (which includes controls such as altitude, slope, coastal dummy, average rainfall etc.) and the district level information on various socio-economic indicators S_d such as caste, religion, literacy rate, population density, access to mobile phones and internet and finally, the average nightlight intensity - which is included as a proxy of economic activity as well as public investments at the district level. It is important to note that the specification would be incomplete without the inclusion of information on the historical districts in pre-independent India to account for the disparate starting points of the different regions. The benchmark specification includes information on investments in irrigation and all-weather roads, land-revenue generated and annual rainfall according to the Imperial District Gazetteer, 1908. The specification also includes State Fixed Effects as well as Political Party fixed effects to account for any unobserved confounders across these dimensions which might be potentially influencing our results. Since criminality in politicians might also be correlated within the districts, all the specifications use a clustering of standard errors at the district level. Our Co-efficient of interest is β as it captures the average difference in criminality of the politicians with the variation in the Colonial Land Revenue System. When the Land Revenue System is defined as a continuous variable, β indicates how the incidence of criminality in politicians changes with the variation in the proportion of district under the Landlord Taxation system, however, when it is defined as a binary categorical variable, the co-efficient allows us to capture the average difference between the majority Landlord versus Non-Landlord districts - both the specifications are explored in this article.

¹⁰The classification of serious criminal charges is based on ADR's definition - which includes both serious violent crimes as well as financial crimes. PRU (2019) also follow the same classification in their analysis.

¹¹All the information on Individual politicians are as per the sworn affidavits that they have to submit to the Election Commission of India before filing their candidature with their respective assembly constituencies.

3.1 Potential Endogeneity Issues:

In a standard OLS form, we are essentially interested in attaining the point estimates for the reduced form relationship between criminal politicians and our Non-Landlord Measure. This approach indeed provides us with some preliminary understanding of the relationship between our two variables of interest, however, it certainly makes a feeble argument for causality and warrants a transparent discussion regarding the endogeneity issues. The starting point in this discussion would be to acknowledge the fact that the major motivations behind the implementation of a particular land revenue system in a particular region would be twofold, i.e. to ensure a steady influx of revenue and to maintain a stable political order (B-I, 2005 [9]). Going by the causal inference literature analogy, if we were to consider the fact of having a Non-Landlord Taxation system as our 'treatment,' it barely requires a cursory explanation to argue that there involves a considerable selection into this treatment for the districts. However, it has to be noted that the land revenue systems were implemented for large contiguous strips of lands (For instance, majority of the Madras Presidency or Bombay Presidency were in the *Raiyatwari* system). Thus, B-I (2005) [9] argue that it is highly unlikely that the choice of tax regime was related with the district level characteristics. Nevertheless, it is indeed important to account for the selection into treatment for these large strips of land, which would be discussed in greater detail in the following section, where I use an Instrumental Variable (IV) strategy to address this issue.

Studies which attempt to associate historical events with contemporary outcomes are particularly prone to various data limitations - with measurement errors endemic to them; this study is certainly no exception to that. In the B-I (2005) [9] database, for the regions of Bihar, Karnataka, Maharashtra, Orissa and West Bengal - the exact proportion of Non-Landlord system is not available, hence, the authors assign a value of either 0 or 1 for the Non-Landlord variable, depending on the accounts of other historical sources. An approach to deal with the aforementioned issues that is explored in this paper would be to follow an IV Strategy, which is discussed in the following subsection.

3.2 Instrumental Variable Strategy:

Certainly not a panacea for all the endogeneity issues that occur when try to attain reduced form relationships such as in case of our benchmark OLS estimates, the IV Strategy does have its own merits which makes its use plausible in the current context. The instrument that has found merit in this literature is to use 'Date of Annexation' to predict the type of institution set-up by the British in the different regions of India (as put forward by B-I (2005) [9]), and there are strong historical arguments concomitant to the use of this strategy that makes us believe that a compelling argument in favour of

the validity of our instrument can be made.

3.2.1 Relevance of the Instrument: Date of Annexation (1820-1856) to predict our Non-Landlord Measure

The key argument to justify the relevance of the instrument would be that those districts that were annexed before 1820 and after 1856 were more likely to have a Landlord system, due to some compelling historical reasons, as discussed in B-I (2005) [9], Baden-Powell, [8] Raychaudhuri (1983) [34]. Firstly, the areas which were conquered earlier, such as the districts of Bengal (following the Battle of Plassey in 1757) already had a presence of landlords before the annexation by the British East India Company, hence, it was easier for them to maintain the status quo. The landlord system allowed the British to exercise their control over the masses without a massive overhaul in the system and minimal investment in the Government administrative machinery.

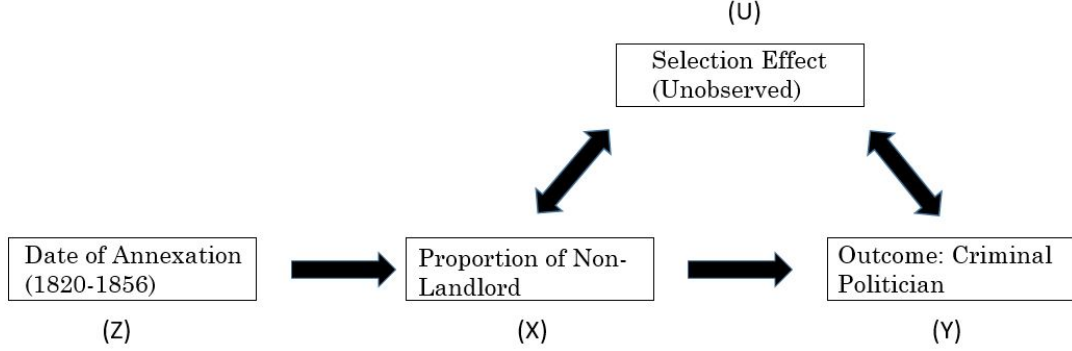


Figure 2: The Instrument (Z) - Date of Annexation (1820-1856) through its effect on our Non-Landlord Measure (Endogenous Regressor -X), indirectly predicts our outcome variable of interest (Y), i.e. criminal charges against politicians in the recent years (2004-17). Key assumption is that Z impacts Y only through its effect on X, and it is not associated to other confounders (U), conditional upon the controls.

Thus, the economic viability as well as political stability appeared to be an alluring prospect for the British administrators of the time. Another major reason would be the influence of the Individual administrators such as Holt Mckenzie, Thomas Munro and Lord Elphinstone - who were more inclined towards dealing with the peasants directly as they were of the view that it would create an incentive effect for the cultivators to increase their productivity of land as their property rights would be more secure and also they would be less subjected to the often exploitative practices of the big land owners. [34] The aforementioned British officers started debating against the revenue boards in the beginning of the 19th Century and their arguments finally prevailed over the boards of the different provinces starting from 1820.¹² Also, with the stories of

¹²Most decisively, Sir Thomas Munro convinced the board of directors of the East India company to implement the individual taxation system, citing the productivity gains from the incentive effects created

peasant uprisings from the French Revolution still fresh in the European folklore, the British administrators were wary of the policies in their own colonies.¹³ This also partly explains the inclination of the British administrators to side with the elite landlords in the early decades of 19th Century to maintain a political equilibrium across the sub-continent. However, with the influential administrators annotating the merits of the individual taxation system on one hand as well as a consolidation of power by the East India Company on the other - especially in the Bengal Province and Northern Circars of the Madras Presidency were some of the underlying conditions which facilitated the departure of the colonial taxation system away from the Landlordism, beginning from the 1820's. The wave of transition from Landlordism to Non-Landlord systems was halted abruptly in 1857, with the '*Sepoy Mutiny*' or the '*Revolt of 1857*' in Meerut of Oudh Province, which momentarily unsettled the East India Company leadership, prompting the British Crown to take India under its direct control.¹⁴ The IV-First stage and the reduced form regressions which is discussed in the following sections substantiates our theoretical contemplation with statistical foundations to our discussion for examining the relevance of our instrument. (Refer to Appendix A.2 for results of the First Stage)

3.2.2 A discussion on the exclusion restrictions of the Instrument

This approach of tracing back the key historical events allows me to make some intelligible arguments in favor of using Date of Annexation from 1820-1856 as an instrument ($Instrument_d$) to predict our Non-Landlord measure (NL_d). However, echoing the sentiment of most of the papers that use Instrumental Variable strategy, justifying the exclusion restrictions are not as straightforward and I would indulge in different theoretical as well as historical arguments to make a case. As the figure 2 posits, for the exclusion restriction to be satisfied, the Date of Annexation (1820-1856) dummy should predict our outcome variable of interest, i.e. Incidence of Criminality in Politicians (2004-2017) only through its effect on the Non-Landlord Measure. At the onset, it does appear that date of annexation might have other possible channels through which it can affect the political outcomes in the 21st Century India, and in all fairness, though the existence of a confounder cannot be completely ruled out theoretically, the more humble attempt of this analysis would be to limit its manifestations as much as possible. The pivotal argument

by such a system for the peasants. In 1820, Madras Revenue Board succumbed to Munro's arguments and implemented the *Raiyatwari* system in the entire province.

¹³One glaring example is the uprising of the slaves in the French colony of Saint-Domingue (now the sovereign state of Haiti) in 1791, which were inspired by the Parisian ideas of liberty and emancipation from the wrath of the elites. Piketty in his book - *Capital and Ideology* (2020) touches upon this issue at a greater depth (pg. 216) [31]

¹⁴The British Crown or as it is popularly known, the '*British Raj*' lasted in India till 1947. Post the 1857 mutiny, the British crown halted its annexation policy and the native states (unconquered regions of the Indian sub-continent before 1857) were indirectly ruled by the crown, till the independence of India. Iyer (2010) succinctly discusses the British annexation policy post the Revolt of 1857 in her article. [24]

in favour of the exclusion restriction of this instrument would be that conditional upon the the controls, the instrument does not have a direct effect over our outcome variable. The IV Specification is modeled in the following manner:

$$\textit{First Stage : } \hat{NL}_d = \textit{constant} + \delta \textit{Instrument}_d + \omega \textit{Britrule}_d + \phi X_d + FE + \mu_d \quad (2)$$

$$\textit{Second Stage : } y_{id} = \textit{constant} + \beta \hat{NL}_d + \omega \textit{Britrule}_d + \psi X_d + FE + \epsilon_i \quad (3)$$

The first obvious contempt against our assumption would be that the length of British rule itself can directly impact the political outcomes in the recent period through its heterogeneous effects on the local institutions. Naturally, I control for length of the British rule in both the stages of IV Regressions in order to account for the direct effects of the length of the rule across the districts. Maneuvering this discussion towards the second-stage of my IV specification [Equation (3)], it should be noted that a comprehensive list of controls have been included in the regression - similar to the benchmark OLS specification [Equation (1)]. The list of controls X_d includes a comprehensive list of Geographic controls, Individual Politician Characteristics, Socio-Economic and Demographic controls at the district level to account for a wide-array of cross-district variations in the observable characteristics. Moreover, as a control for the initial conditions, I also have controls for some of the historical characteristics of the districts. Finally, the specification also includes a battery of Fixed effects accounting for the State specific characteristics as well as the differences across the Political Parties. Since my benchmark IV Specification is demanding and includes a plethora of controls to account for the differences in observable characteristics of the districts, the humble argument to defend the exclusion restriction would be to posit that conditional upon these controls as well as accounting for the length of the British Rule in each district, my instrument has an influence on the contemporary outcomes only through its effect on the regressor, i.e. the Non-Landlord measure, which is suspected to be endogenous - considering the possibility of a selective annexation and taxation policy by the British. Another point to strengthen my argument would be the fact that the British left in 1947 and with them, the colonial taxation system also ceased to exist. In addition, all the states started implementing active policies to bring about a greater parity in land-ownership and abolition of landlord culture was dramatic, starting from the 1950's and the 60's in the former Landlord-intensive regions.¹⁵ Thus, half a century after independence, given the active policies from the States and the Centre, the expectation is that the direct effect of date of annexation on India's recent political out-

¹⁵It is also worthy to mention that the core Landlord regions of West Bengal, Bihar and Srikakulam District of Andhra Pradesh were the cradle of violent peasant uprisings in the post independence period. Refer to Singh (1995) [38] for a discussion at greater depth.

comes should be mitigated further. However, in spite of accounting for an exhaustive list of observables, it would be imprudent to rule out the possibility of the presence of some unobservables influencing our parameters. In addition, even though I can be modestly confident about my results to be stable at the district level, my specification also does not rule out the possibility of confounders operating at sub-district levels, which could not be accounted for due to the paucity of data at the finer levels, especially for the historical datasets - though clustering the standard errors at the district level does lend some credence to my specification as it accounts for the within district correlations to an extent. Given the exhaustive set of controls and battery of fixed effects, it is difficult to fathom an explicit set of confounders that might be violating our exclusion restriction. However, if we indulge in a thought experiment, one plausible unobservable that could be driving the results is 'The role of Trust' within and across the districts.¹⁶ It can be argued that those districts which were subjected to the colonial institutions for a longer period developed a sense of 'class-based antagonism,' became a fertile ground for a conflictual environment between the working class and the elites and given the exploitative nature of the British colonial rule (irrespective of the type of land revenue system implemented), the districts which were controlled for longer periods might have led to a widespread contempt and a general loss of trust in the institutions. All of the aforementioned factors can certainly have an influence on our recent Political outcomes, hence making a case for the violation of our exclusion restriction. Bounded by the fact that we cannot control for unobservables such as 'Trust' or general feeling of discontentment, which are both time varying and fluid across space, the rational approach would be to accept such contradictions as a limitation of the current research, which also leaves a room for further research in this aspect. Lastly, as pointed out by Roy (2014) [37], "...*The Landlord areas largely consisted of deltas, coasts and riparian plains.*" Thus, in spite of including the geographic controls in my model, geography is something that shapes history and politics in a multitude of ways, as intelligibly discussed by Diamond (1999) [20], NBER (2020) [21] and Roy (2011) [36]. With that backdrop, it is hard to argue against the possibility of a geographical confounder, though we can hedge the risk to some extent with the inclusion of our controls and district fixed effects.

4 Results:

In [Table 2](#) and [Table 3](#), I would discuss the results of the benchmark OLS and IV 2sls specifications respectively. The discussion regarding the validity of the results would be continued in the following section, where I indulge in a discussion regarding the sensitivity of the results when different specifications are explored. A uniform pattern has been

¹⁶See Braithwaite & Levi (1998) [17] for further discussion on the role of trust in governance.

maintained for most of the tables that are presented in the Results and Robustness sections - the first column is the simplest specification with minimal controls (Usually the Politician Characteristics) and progressively, the specifications get more demanding as I include an additional set of controls, hence making the results in column (4) the most demanding set of specifications, which I intent to treat as the benchmark.

Table 2: Results of OLS Regression: Benchmark

<i>Dependent Variable: Criminal charges against Politicians (2004-17)</i>				
Panel A: Non-Landlord (Continuous)	(1)	(2)	(3)	(4)
Prop. non-landlord	-0.810 (0.597)	-0.576 (0.508)	-0.641 (0.552)	-0.337 (0.581)
Observations	3481	3481	3481	2504
R^2	0.060	0.065	0.067	0.059
Panel B: Non-Landlord (Dummy)				
Non-landlord dummy	-0.955* (0.532)	-0.985** (0.456)	-1.254** (0.522)	-1.369** (0.613)
Observations	3481	3481	3481	2504
R^2	0.061	0.067	0.070	0.061
Controls:				
Politician	Y	Y	Y	Y
Geographic		Y	Y	Y
Socio-Economic			Y	Y
Historical				Y
Party FE	Y	Y	Y	Y
State FE	Y	Y	Y	Y

Standard errors in parentheses. Standard Errors are clustered at the District Level

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Politician Controls: Age, Education, Open Charges, Bye-Election Winner, Assets. (Refer to [Table 1](#) for further details.)

Refer to Appendix [A.1](#) for the details on Geographic, Socio-Economic and Historic Controls.

As briefed in the previous section, the reduced form relationship attained from the linear regression for my outcome variable of interest, i.e. Number of Criminal Charges against politicians with the set of controls and the Non-Landlord Measure is marred by various endogeneity issues, hence, the results should be treated as suggestive at best. Nevertheless, it should be noted that across all the specifications in [Table 2](#), the co-efficient remains negative all throughout, indicating that a higher value of our historical Non-Landlord Measure is correlated with a lower incidence of criminal charges against politicians in the period 2004-17. The Panel A of [Table 2](#) traces the co-efficient of my Non-Landlord measure when it is included as a continuous variable. It can be observed that even though the negative sign is retained throughout, the co-efficient becomes weaker with the inclusion

of controls and remains statistically insignificant across all the columns.

Table 3: Results of IV 2sls Second Stage Regression: Benchmark

<i>Dependent Variable: Criminal charges against Politicians (2004-17)</i>				
Panel A: Non-Landlord (Continuous)	(1)	(2)	(3)	(4)
Prop. non-landlord	-2.912 (2.049)	-2.349* (1.333)	-2.730** (1.385)	-3.008** (1.532)
Observations	3481	3481	3481	2504
R^2	0.051	0.059	0.059	0.045
Panel B: Non-Landlord (Dummy)				
Non-landlord dummy	-1.520 (1.019)	-1.463* (0.778)	-1.709** (0.829)	-1.887** (0.856)
Observations	3481	3481	3481	2504
R^2	0.060	0.066	0.069	0.061
Controls:				
Politician	Y	Y	Y	Y
Geographic		Y	Y	Y
Socio-Economic			Y	Y
Historical				Y
Party FE	Y	Y	Y	Y
State FE	Y	Y	Y	Y

Standard errors in parentheses. Standard Errors are clustered at the District Level

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Politician Controls: Age, Education, Open Charges, Bye-Election Winner, Assets. (Refer to [Table 1](#) for further details.)

Refer to Appendix [A.1](#) for the details on Geographic, Socio-Economic and Historic Controls.

However, as discussed earlier, the Non-Landlord Measure in Panel A is imperfect, since B-I (2005) [9] replaced it with a value of 0 or 1 if they could not extract the exact proportion from the historical archives. In Panel B, I present the results for an alternative specification where our Non-Landlord measure is presented as a dummy variable, taking a value of 1 if majority of the district was subjected to a Non-Landlord taxation system¹⁷. The co-efficients in Panel B of [Table 2](#) hence, provide us with the average difference in the incidence of criminal charges against politicians across the majority landlord v/s non-landlord districts. It is interesting to note that as I include the controls, my co-efficient of interest becomes progressively stronger. For my benchmark regression, i.e. column (4) of Panel B ([Table 2](#)), a 1 standard deviation increase in our Non-Landlord measure is associated with a 0.144 standard deviation reduction in criminal charges against the winners of assembly elections from 2004-17. However, since my control is a binary categorical variable, it should be taken into consideration that the estimates are prone to over-estimation.

¹⁷For values greater than 0.5 in the Proportion of Non-Landlord Variable.

Moving towards the direction of a causal inference, [Table 3](#) contains the results for the second stage of the IV 2sls regression¹⁸. In both Panels A and B of [Table 3](#), it can be observed that as I include more controls, moving from column (1) to column (4), my co-efficient of interest, the Non-Landlord becomes stronger and negative. In contrast with the results from Panel A of [Table 2](#), the benchmark IV co-efficient in [Table 3](#) is much stronger and it also becomes statistically significant. If we believe the identification to be valid, this result is important as it points out that the OLS co-efficients might be prone to an attenuation bias, stemming from both reverse-causality as well as measurement error issues, as discussed in the previous section. Moreover, the IV co-efficients in both the panels becoming stronger as we move from column (1) to column (4), which indicates that as we partial out the effects of the district level characteristics, the persistence of the Taxation System imposed by the British on the contemporary political outcomes becomes even more pronounced. From the [Table 3](#), if we observe our benchmark estimates from column (4), a 1 standard deviation increase in the Non-Landlord proportion in Panel A is associated with a 0.241 standard deviation reduction in criminal charges and similarly, in Panel B, a 1 standard deviation increase in the Non-Landlord dummy is associated with a 0.190 standard deviation reduction in criminal charges against the politicians who won the assembly elections from 2004-17. A causal interpretation of this result is indeed conditional upon the validity of the instrument and in the robustness section, we can observe that there are certainly some limitations of using the current identification strategy, which merits further scrutiny. However, in my benchmark specification in column (4) of [Table 3](#), I control for the Politician Characteristics, the district level characteristics such as Geographical features, Socio-Economic and demographic characteristics such as literacy rate, night-light intensity (as a proxy for economic activity and public investment in infrastructure), caste and religious composition etc. as well as Historical Characteristics of the districts to control for the initial conditions. Moreover, to account for the peculiarities of the different states and the political parties, a battery of fixed effects have been included in this specification. Thus, a negative as well as statistically significant co-efficient in both the Panels for such a demanding specification does place these estimates on a greater pedestal than mere correlations. Combining the results from both OLS and IV specifications, as well as the knowledge from previous literature, the evidence becomes more conspicuous that some colonial policies indeed have persisting effects on the recent outcomes and a part of the story about India’s heterogeneous development outcomes across the different regions can be explained through the Institutional-Political Channel, which exhibits a persistence even after several decades of India’s independence.

¹⁸Refer to the Appendix [A.2](#) for the IV First Stage results. For convenience, it should be noted that the F-statistic for the first stage is 226.83, which gives us an indication that it is less likely that our instrument is weak.

5 Robustness Checks:

5.1 Alternative Dependent Variable: Serious Charges Only

In the previous section, we could observe that despite of movements in my co-efficients as well as standard errors across the different Panels in the [Table 2](#) and [Table 3](#), what is reassuring is that my Non-Landlord measure retains the negative co-efficient all throughout.

Table 4: Results of OLS Regression: Serious Criminal Charges

<i>Dependent Variable: Serious charges against Politicians (2004-17)</i>				
Panel A: Non-Landlord (Continuous)	(1)	(2)	(3)	(4)
Prop. non-landlord	-0.0282 (0.0245)	-0.0284 (0.0250)	-0.0242 (0.0269)	-0.00326 (0.0364)
Observations	3423	3423	3423	2467
R^2	0.088	0.090	0.093	0.095
Panel B: Non-Landlord (Dummy)				
Non-landlord dummy	-0.0319* (0.0185)	-0.0368** (0.0186)	-0.0414** (0.0200)	-0.0319 (0.0318)
Observations	3423	3423	3423	2467
R^2	0.088	0.091	0.094	0.095
Controls:				
Politician	Y	Y	Y	Y
Geographic		Y	Y	Y
Socio-Economic			Y	Y
Historical				Y
Party FE	Y	Y	Y	Y
State FE	Y	Y	Y	Y

Standard errors in parentheses. Standard Errors are clustered at the District Level

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Politician Controls: Age, Education, Open Charges, Bye-Election Winner, Assets. (Refer to [Table 1](#) for further details.)

Refer to Appendix [A.1](#) for the details on Geographic, Socio-Economic and Historic Controls.

In the first set of robustness checks presented in [Table 4](#) and [Table 5](#), I replicate the specifications presented above, but the dependent variable is only restricted to serious criminal charges against the politicians¹⁹ Across all the columns in both the tables, my co-efficient of interest, i.e. the Non-Landlord measure, is negatively associated with the number of serious charges against the politicians who were winners of the state assembly elections from 2004-17, which complements the results from our benchmark specifications.

¹⁹Serious charges as defined by Association of Democratic Reforms (ADR) - includes serious financial crimes as well as violent crimes such as murder, involvement in communal violence etc.

Table 5: Results of IV 2sls Second Stage Regression: Serious Criminal Charges

<i>Dependent Variable: Serious charges against Politicians (2004-17)</i>				
Panel A: Non-Landlord (Continuous)	(1)	(2)	(3)	(4)
Prop. non-landlord	-0.191 (0.118)	-0.111 (0.0703)	-0.147** (0.0726)	-0.125 (0.0895)
Observations	3423	3423	3423	2467
R^2	0.073	0.087	0.086	0.089
Panel B: Non-Landlord (Dummy)				
Non-landlord dummy	-0.0992* (0.0553)	-0.0685* (0.0412)	-0.0915** (0.0431)	-0.0775 (0.0521)
Observations	3423	3423	3423	2467
R^2	0.085	0.090	0.092	0.094
Controls:				
Politician	Y	Y	Y	Y
Geographic		Y	Y	Y
Socio-Economic			Y	Y
Historical				Y
Party FE	Y	Y	Y	Y
State FE	Y	Y	Y	Y

Standard errors in parentheses. Standard Errors are clustered at the District Level

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Politician Controls: Age, Education, Open Charges, Bye-Election Winner, Assets. (Refer to [Table 1](#) for further details.)

Refer to Appendix [A.1](#) for the details on Geographic, Socio-Economic and Historic Controls.

Nonetheless, it should be noted that the co-efficients become dramatically weak and most of them also lose their statistical significance. It is not unsurprising though, if we consider the fact that only about 531 politicians out of my sample of 1631 politicians who won the state assembly elections are charged with a serious offence, which leads to a sufficient reduction in my sample of politicians in the dependent variable. The results of this robustness exercise consolidates our belief that on an average, a low-political equilibrium is more likely in the Landlord areas - proxied by the criminal charges against the politicians.

5.2 Sensitivity Check: Dropping Bihar and West Bengal

The districts that are a part of modern day states of Bihar and West Bengal were at the core of Landlordism during the British rule²⁰. Taking a cue from the previous literature such as Raychaudhuri (1983) [34], Roy (2011) [36] and Singh (1995) [38], it can be argued

²⁰These states were under the Bengal Presidency during the British rule and were annexed the earliest, starting from the Battle of Plassey, 1757.

that since the Landlord system was the strongest in these two states, the persistence of the colonial revenue system might be over-represented due to some outlier districts from these states. Hence, in the robustness exercise presented in [Table 6](#), I drop the modern day states of Bihar and Bengal (or the Bengal Presidency regions) from my sample and replicate the benchmark specifications.

Table 6: Results of IV 2sls Regression: No Bengal Presidency

<i>Dependent Variable: Criminal charges against Politicians (2004-17)</i>				
Panel A: Non-Landlord (Continuous)	(1)	(2)	(3)	(4)
Prop. non-landlord	-2.959 (2.055)	-2.513* (1.303)	-2.970** (1.368)	-3.932** (1.676)
Observations	2687	2687	2687	2017
R^2	0.055	0.066	0.066	0.034
Panel B: Non-Landlord (Dummy)				
Non-landlord dummy	-1.537 (1.014)	-1.565** (0.752)	-1.861** (0.824)	-2.477*** (0.866)
Observations	2687	2687	2687	2017
R^2	0.070	0.079	0.082	0.071
Controls:				
Politician	Y	Y	Y	Y
Geographic		Y	Y	Y
Socio-Economic			Y	Y
Historical				Y
Party FE	Y	Y	Y	Y
State FE	Y	Y	Y	Y

Standard errors in parentheses. Standard Errors are clustered at the District Level

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Politician Controls: Age, Education, Open Charges, Bye-Election Winner, Assets. (Refer to [Table 1](#) for further details.)

Refer to [Appendix A.1](#) for the details on Geographic, Socio-Economic and Historic Controls.

From both the panels of [Table 6](#), we can observe that the results are not only in line with my benchmark estimates, in fact the co-efficients become even more negative and remain significant once we drop the core Landlordism states of Bihar and West Bengal. This is a very strong result, which lends credence to our ex-ante expectations that regions which were subjected to Landlord Taxation system during the British rule are associated with poorer political outcomes in the modern era, despite of partialing out the effects of the potential outlier districts.

5.3 Sensitivity Check: Neighbouring Districts Only

In this exercise, I only keep the neighbouring Landlord & Non-Landlord districts in the sample and replicate the benchmark OLS specifications as presented in [Table 2](#). Since the regression analysis is conducted on a very restricted sample, it would be prudent to avoid the temptation of interpreting the co-efficients at face value. However, what is of greater pertinence in this exercise would be to look at the sign of the co-efficients across the different columns, and especially our most demanding specification in column (4), which includes all the controls and the battery of fixed effects. It is re-assuring that even when we confine the analysis to only the neighbouring Landlord & Non-Landlord districts, there is a negative association between the Non-Landlord measure and criminal charges against politicians in both the panels across all the columns.

Table 7: Results of OLS Regression: Neighbouring Districts

<i>Dependent Variable: Criminal charges against Politicians (2004-17)</i>				
Panel A: Non-Landlord (Continuous)	(1)	(2)	(3)	(4)
Prop. non-landlord	-2.358 (1.443)	-2.063 (1.469)	-2.408 (2.048)	-5.628*** (0.637)
Observations	617	617	617	476
R^2	0.094	0.108	0.148	0.182
Panel B: Non-Landlord (Dummy)				
Non-landlord dummy	-1.874 (1.300)	-2.071* (1.171)	-3.971** (1.825)	-6.074*** (0.687)
Observations	617	617	617	476
R^2	0.093	0.112	0.155	0.182
Controls:				
Politician	Y	Y	Y	Y
Geographic		Y	Y	Y
Socio-Economic			Y	Y
Historical				Y
Party FE	Y	Y	Y	Y
State FE	Y	Y	Y	Y

Standard errors in parentheses. Standard Errors are clustered at the District Level

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Politician Controls: Age, Education, Open Charges, Bye-Election Winner, Assets. (Refer to [Table 1](#) for further details.)

Refer to [Appendix A.1](#) for the details on Geographic, Socio-Economic and Historic Controls.

It is also interesting to note the incremental change in the co-efficients as we move from column (1) to (4). It can be observed that the association between the Non-Landlord measure and criminal charges becomes stronger and negative with the progressive inclusion of the controls - however, there is a very sharp decrease in the standard error and the

co-efficient becomes even stronger in magnitude as we move to the last column from the penultimate column. However, it has to be noted in the same breath that these parameter estimates are suggestive at best, since the model suffers from high multicollinearity which is essentially inflating the magnitudes.

5.4 Placebo Test: Alternative Specification for the Instrument

In the identification section, we indulged in a careful discussion about 'Date of Annexation' between 1820-1856 being my instrument to predict the Non-Landlord districts due to the historical events that unfolded during that period.

Table 8: Results of IV 2sls Regression: Date Sensitivity

<i>Dependent Variable: Criminal charges against Politicians (2004-17)</i>				
Panel A: Non-Landlord (Continuous)	(1)	(2)	(3)	(4)
Prop. non-landlord	-1.724 (1.865)	-1.626 (1.853)	-1.626 (1.853)	-4.142 (3.909)
Observations	2504	2504	2504	2504
R^2	0.055	0.055	0.055	0.031
Panel B: Non-Landlord (Dummy)				
Non-landlord dummy	-1.083 (1.083)	-1.099 (1.155)	-1.099 (1.155)	-1.429 (0.987)
Observations	2504	2504	2504	2504
R^2	0.061	0.061	0.061	0.061
Controls:				
Politician	Y	Y	Y	Y
Geographic	Y	Y	Y	Y
Socio-Economic	Y	Y	Y	Y
Historical	Y	Y	Y	Y
Party FE	Y	Y	Y	Y
State FE	Y	Y	Y	Y

Standard errors in parentheses. Standard Errors are clustered at the District Level

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Politician Controls: Age, Education, Open Charges, Bye-Election Winner, Assets. (Refer to [Table 1](#) for further details.)

Refer to Appendix [A.1](#) for the details on Geographic, Socio-Economic and Historic Controls.

The various specifications presented above reflect the sensitivity of our instrument to the changes in the definition of our Non-Landlord threshold.

Column (1): 1818-1856, Column (2): 1817-1856, Column (3): 1815-1865, Column (4): 1801-1856

Since the East India Company was replaced by the British Crown in 1857 following the Sepoy Mutiny of 1857, the end date of our instrument is less ambiguous - more so, because no other provinces were annexed after that period until India's independence in 1947. However, [Table 8](#) provides some interesting insights once we tweak the starting point of

our instrument. If the Instrument aligns with the description of the historical events - the instrumentation of my Non-Landlord measure through date of annexation should only hold for the period after 1820 and not before.²¹ In Table 8, I present specifications for different bandwidths of the instrument. It should be noted that the co-efficients indeed retain their negative sign in both the panels, however we fail to reject null for a significant effect of the variation of the Non-Landlord measure on the political outcome - and the result is consistent across all the specifications presented in Table 8. This result lends some credence towards the theoretical validity of my instrument.

6 Further Discussion:

6.1 Institutions and Political Selection

Reiterating the notion that was discussed earlier, an important objective of this article is to provide a unified analytical framework to explain India's regional disparities in Development, wherein I look at the Colonial Persistence of Institutions and Poor Political Selection within the same lenses. The results from my empirical investigation provide plausible hints about a causal association between the aforementioned underlying and the proximate causes of underdevelopment. Whereas this finding in itself provides us with a clue about the mechanism through which the colonial institutions continue to persist in the modern day development outcomes in case of India, i.e. through the political selection channel, the paucity of pre-2004 data on the criminal records of the politicians stymies my efforts to empirically trace the evolution of this channel and the mechanisms in place. Nevertheless, it still does not preclude us from indulging into some thought experiments and raising some pertinent questions. PRU (2019)[32] provide a causal evidence of narrowly electing a criminally accused politician and a plunge in economic development - However, taking inspiration from the results found in this article, the most perceptible follow up question would be to ask: *How do these politicians end up in such leadership positions?*

Buchanan (1989) [18] posits that in order to provide a restraint and shape incentives, it is necessary to consolidate the institutions which govern the rules of the 'political game.' In many of the lower and middle income democracies such as India, an unsolved puzzle is that despite of the institutional restraints and incentive structures theoretically preclude the possibility of 'low quality' candidates rising to power, year after year, the candidates are not only able to beat the system and rise to power, they are also able to undermine the institutions, circumvent the rule of law and manage to stay politically relevant. Besley (2005)[14] proposes four aspects of the institutional structures that incentivizes a good

²¹Considering Madras Revenue Board's decision in the year 1820 to shift to an individual taxation system after a successful persuasion by the British administrator - Thomas Munro.

quality politician to contest for power: 1) Attractiveness Ratio, i.e. how appealing is the position for a good quality candidate relative to a bad quality candidate (with an inferior education background, criminal record etc.); 2) Success Ratio -the likelihood that this candidate is able to win the mandate in the election; 3) Opportunity Cost Ratio - which determines the outside options of this candidate or in other words, what do they have to give up in order to contest for elections and; 4) Accountability Ratio - Captures whether the electorate is able to reward the good politicians and reprimand the low quality politicians in the successive political cycles. In case of India, all the four institutional aspects seem to stand on transient grounds, with the recently concluded state assembly elections being yet another testimony to the fact, with wealth, muscle power and criminality exhibited in broad daylight.²²

6.2 Low Political Equilibrium: Potential Mechanisms

The British Raj left India in 1947, and so were the colonial land revenue systems. More than half a century since then, the relics of the past continue to linger around, as can be seen from the present study. One potential reason why the Landlord districts continue to elect poorer quality politicians as their assembly representative can be due to a feeling of 'mistrust' between the ruling class and the voters. After the 1793 Permanent Settlement Act instituted by Governor General, Charles Cornwallis - the Landlords were responsible for a collecting fixed revenues and turn it over to the British Administration. Many historical accounts as well as folklores tell us how expropriation of peasant property by the *Zamindari Class* was a commonplace in the landlord regions and this practice of exploitation of the marginal farmers fuelled a fair share of antagonism between the two groups in the pre-independence period. Thus, it is unsurprising that the most radical forms of peasant movements in the post-independence period, which often involved armed violence, were associated to the landlord regions.(Singh, 1995 [38]) As noted by Alesina & Zhuravskaya (2011) from a cross country study, [3] a lack of trust breeds higher segregation - which in turn is associated to a poor quality of government as measured by a host of indicators. Extending the same line of argument in case of the landlord districts of India, it can be argued that this lack of trust between the two classes gave rise to an inferior form of politics in these regions, which did not cease to exist despite several decades of independence from British rule. The 'lack of trust' and segregation channel leads us to another problem in Indian politics that has been pervasive and yet again, more pronounced in the landlord regions - 'Ethnic Voting.' Proposed as a mechanism

²²In the assembly elections held in the states of Assam, Kerala, Puducherry, Tamil Nadu and West Bengal in April 2021, 52% of the election winners have pending criminal charges, 30% of them are facing serious criminal charges and 66% of these candidates have asset ownership of more than 10 million (or 1 Crore) Indian Rupees. Source: <https://adrindia.org/content/assam-kerala-puducherry-tamil-nadu-and-west-bengal-assembly-elections-2021-analysis-0>

to explain the linkage between segregation and poor quality of governance, Alesina & Zhuravskaya (2011) provide a cross-country evidence of the detrimental effects of ethnic voting. Banerjee & Pande (2007) in their study [12] provide theoretical predictions as well as empirical evidence from India about how in an environment where ethnic voting is prevalent, opportunities are created for the dishonest politicians to come into power.²³ Complementary to this notion, Bardhan & Mookherjee (2012)[13] elucidate the concept of 'Clientelism,' wherein, strategic transfers are promised by political parties towards a targeted beneficiary group in return of political favours - a form of politics which can be more easily deployed in regions where polarization is usually high and there is prevalence of inter-group mistrust. The authors discuss the special case of clientelism in West-Bengal (the core zone of landlordism) and how *Left Front*, the political party which dominated West Bengal's political landscape in the 1960's exploited the feelings class-based antagonism and consolidated political power in the region with the promise of making selective transfers to the low caste groups. Such form of clientelism politics is not only 'welfare-reducing,' it also provides a window for indulging in rent-seeking by the politicians, which might offer a potential explanation to the findings of our study.

6.3 Local Average Treatment Effects (LATE) and Cyclical Development Patterns

Bisin & Moro (2021) [16] in a latest book term those studies which attempt to document the persistence of historical events (with some of them going a step further and claiming causality) as 'Persistence Studies.' The key feature of the persistence studies, as they point out, is that there is an empirical focus on the effects of a treatment variable in the present, assuming its persistence from the historical past. The aforementioned description is apposite to the present study, where we proxy the historical institutions through our 'Non-Landlord' treatment variable, which is in turn instrumented by the 'date of annexation' dummy, which allows us to document a significant 'First-Order' result of colonial policies on current political outcomes of India. However, following Angrist & Imbens (1996) [4] such a treatment design identifies Local Average Treatment Effects (LATE) rather than Average Treatment Effects (ATE) as the treatment effects are heterogenous and what we observe is only the average effect on our sample of 'Compliers.' In other words, I cannot comment on the counterfactual scenario of those districts that would have followed either the Landlord or Non-Landlord Taxation system in any case (Always-Takers and Always-Defiers) without a formal British imposition of the colonial taxation policies.²⁴

²³We have to bear in mind that ethnicization of voting is both a compounded outcome of caste and class conflicts as the Landlords which were appointed by the British were also mostly from the 'Brahmin Caste.'

²⁴This topic is discussed at greater lengths in Imbens & Rubin (2010) [23]

Another limitation of the persistence studies, highlighted by Bisin & Moro (2021) [16] is that in many cases, it is difficult to disentangle the mechanisms which are actually driving the results which are obtained in these studies, which is also in this case, where it is difficult to indulge into a formal empirical enquiry into our mechanisms. Austin (2008) [7] draws attention towards the problem of "Compression of History" in such persistence studies and we have to take note that in the present study as well, whereas the association between colonial policies and modern outcomes might hold true, it might undermine the importance of the process itself, as I am not able to trace how the stochastic process unfolded over the past 200 years. This concern is also echoed by Roy (2014) [37] who believes that the natural endowments of the districts created disparate agricultural production as well international trade capacities. In addition, the fact that the Landlord regions, being largely consisting of deltas, coasts and riparian floodplains should have translated into higher revenue inflow as well as public investment in these districts, leading to what he calls "...a virtuous cycle of development at the regional level between trade, state capacity and infrastructure." However, with inward-looking policies starting to dominate the public discourse and an era of regulated trade regimes starting from the 1920's leading to a plunge in world trade, Roy adds that the locally operating 'virtuous cycles' came to an end. Following Roy (2014), [37] I have incorporated district level characteristics from the 1908 Imperial Gazetteer as controls, which partly accounts for this intermediate period in India's regional level development trajectory.

Lastly, it is important to re-iterate the fact that the present study only allows us to study the outcomes of those regions which were directly governed by the British, hence leaving out the princely states and those regions of India which had autonomous rule throughout the colonial period.²⁵

7 Conclusion

The findings of this study are in line with Banerjee & Iyer (2005) [9] as it documents the persistence of colonial institutions on one of India's recent development outcomes. Despite of redefinition of the State Boundaries, change in ruling governments and temporal shifts in Economic Policies, the palimpsest of Britain's land revenue system appears to have a strain on India's politics till date. The key results from the benchmark IV Second Stage estimates suggest that a 1 standard deviation increase in the Non-Landlord proportion is associated with a 0.241 standard deviation reduction in criminal charges and similarly, a 1 standard deviation increase in the Non-Landlord dummy is associated with a 0.190 standard deviation reduction in criminal charges against the politicians who

²⁵Iyer (2010) [24] provides a detailed discussion about the comparative development trajectory of the direct v/s indirectly ruled provinces of British India.

won the assembly elections from 2004-17. The negative association between an increase in Non-Landlord proportion and incidence of criminality in politicians is a stable result across all the specifications and endures the inclusion of various district level controls (contemporary as well as historic) and a battery of fixed effects. The validity of the results are corroborated by various alternative robustness exercises are also conducted, such as considering only the 'serious charges' against politicians, dropping influential states such as Bihar and West Bengal, running the regressions only on the neighbouring states and changing our instrument definition (by varying the bandwidth of the date of annexation) as placebo tests.

Having said, it should be acknowledged in the same breath that in the studies such as our present article, which attempt to associate historical events with recent outcomes (called as the 'persistence' studies) - it is often difficult to conduct an empirical examination of the mechanisms that are driving the results. Moreover, in my present research, though the use of an IV allows me to move closer towards a closer inference, the presence of potential confounders seeping in through our wall of controls and fixed effects cannot be ruled out completely. Also, the IV strategy only allows us to compute LATE and trace only the first-order local effects of a persistent historical variable.

PRU (2019) [32] give us a clue about the proximate cause of disparate levels of development in India as they show how narrowly electing criminally accused politicians in the state assembly elections are associated to a massive fall in local economic development and public investments. The present study allows us to take this enquiry further and examine the underlying causes behind an inferior political selection at the local levels. My findings suggest a conspicuous association of the contemporary political outcomes to the colonial institutions established by the British Raj, a work pioneered by B-I (2005) [9].

However, the results should be taken with caution and should not be 'over-interpreted,' since the colonial persistence explains only a part of the disparate political outcomes across the different regions. There are various other important determinants which are out of the scope of this research - such as the role of television and social media propaganda, the network effects of the incumbents, state v/s central party dynamics, role of caste and religious networks and influence of foreign funding in elections being a few important themes which can be incorporated in this framework for further study.

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A Appendix

A.1 Descriptive Statistics of Controls

Table 9: Differences in Means: Geographic Controls

	Landlord Districts	Non-Landlord Districts	P-value
Slope	0.308	0.550	0.000***
Coastal Dummy	0.175	0.156	0.113
Temperature (2003-2015)	26.484	26.374	0.012**
Rainfall (2003-2015)	1292.134	1100.728	0.000***
Distance to Border	155088.353	154011.584	0.816

Table 10: Differences in Means: Socio-Economic Controls

	Landlord Districts	Non-Landlord Districts	P-value
Nightlight Intensity	3.671	5.612	0.000***
Scheduled Caste Proportion	0.165	0.170	0.060*
Scheduled Tribe Proportion	0.149	0.054	0.000***
Literate Population	0.580	0.649	0.000***
Proportion of Muslims	0.160	0.112	0.000***
Other Religions	0.023	0.078	0.000***
Access to Internet	0.085	0.130	0.000***
Access to Mobile Phones	0.871	0.924	0.000***
Population Density	7.084	6.821	0.000***

Table 11: Differences in Means: Historical Controls

	Landlord Districts	Non-Landlord Districts	P-value
Total Irrigation	0.088	0.114	0.000***
Literacy Rate	1.553	1.434	0.000***
Road Infrastructure	4.416	5.205	0.000***
Annual Rainfall	3.897	3.577	0.000***
Land Revenue	13.268	13.920	0.000***

A.2 IV First Stage Results

Table 12: Results of IV First Stage Regression

	(1)	(2)	(3)	(4)
Instrument	0.278*** (0.0182)	0.399*** (0.0182)	0.416*** (0.0180)	0.424*** (0.0216)
Observations	3481	3481	3481	2504
R^2	0.715	0.752	0.778	0.799
F-statistic	345.9	348.1	309.1	226.8
Controls:				
Politician	Y	Y	Y	Y
Geographic		Y	Y	Y
Socio-Economic			Y	Y
Historical				Y
Party FE	Y	Y	Y	Y
State FE	Y	Y	Y	Y

The above table presents the results of the first stage regressions for IV specifications of Table 3. Standard errors in parentheses.

Standard Errors are clustered at the District Level.

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

Instrument: Binary categorical variable taking a value of 1 if the district was annexed between 1820-1856 and 0 otherwise.

A.3 Politician Characteristics: All Candidates

Table 13: Differences in Means: All Candidates of Assembly Elections (2004-17)

	Landlord Districts	Non-Landlord Districts	P-value
Age	45.289	45.224	0.608
Education	11.035	10.666	0.000***
Open Charges	0.725	0.527	0.000***
Bye-Election Winner	0.007	0.006	0.372
Serious Open Charges	0.076	0.047	0.000***
Possible Punishment	2.148	1.378	0.000***
Assets (Log)	14.030	14.479	0.000***
Liabilities (Log)	12.664	13.310	0.000***

The districts are classified as Non-Landlord if the proportion of the district subjected to Rayatwari (Individual Level) or Mahalwari (Village Level) taxation system exceeds 50%.

A.4 OLS Regressions: All Candidates

Table 14: Results of OLS Regressions: All candidates

<i>Dependent Variable: Criminal charges against Politicians (2004-17)</i>				
Panel A: Non-Landlord (Continuous)	(1)	(2)	(3)	(4)
Prop. non-landlord	-0.0780 (0.0800)	-0.0701 (0.0703)	-0.0942 (0.0769)	-0.162 (0.0994)
Observations	31213	31213	31213	23270
R^2	0.039	0.040	0.040	0.038
Panel B: Non-Landlord (Dummy)				
Non-landlord dummy	-0.138* (0.0765)	-0.134* (0.0708)	-0.204*** (0.0742)	-0.342*** (0.0905)
Observations	31213	31213	31213	23270
R^2	0.039	0.040	0.040	0.039
Controls:				
Politician	Y	Y	Y	Y
Geographic		Y	Y	Y
Socio-Economic			Y	Y
Historical				Y
Party FE	Y	Y	Y	Y
State FE	Y	Y	Y	Y

Standard errors in parentheses. Standard Errors are clustered at the District Level

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

A.5 IV Regressions: All Candidates

Table 15: Results of IV Second Stage Regressions: All candidates

<i>Dependent Variable: Criminal charges against Politicians (2004-17)</i>				
Panel A: Non-Landlord (Continuous)	(1)	(2)	(3)	(4)
Prop. non-landlord	-0.715** (0.354)	-0.438* (0.232)	-0.566** (0.223)	-0.659*** (0.247)
Observations	31213	31213	31213	23270
R^2	0.035	0.038	0.038	0.037
Panel B: Non-Landlord (Dummy)				
Non-landlord dummy	-0.371** (0.168)	-0.270** (0.135)	-0.350*** (0.127)	-0.388*** (0.127)
Observations	31213	31213	31213	23270
R^2	0.039	0.039	0.040	0.039
Controls:				
Politician	Y	Y	Y	Y
Geographic		Y	Y	Y
Socio-Economic			Y	Y
Historical				Y
Party FE	Y	Y	Y	Y
State FE	Y	Y	Y	Y

Standard errors in parentheses. Standard Errors are clustered at the District Level

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