

# "Federalism Unchained: The Laws of Power and Conflict in India"

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## Abstract

This paper examines the relationship between fiscal federalism, decentralization, and conflict dynamics in India, with a focus on secessionist, state creation, and resource-related conflicts. By disaggregating conflicts by type and constructing a standardized measure of conflict intensity, we offer a nuanced understanding of how different dimensions of federalism—tax and spending autonomy—interact with conflict triggers across states. Combining game-theoretic insights, 2SLS estimation, and spatial econometric analysis, we show that tax autonomy consistently reduces the intensity of secessionist and resource-related conflicts. In contrast, the effects of spending autonomy are more ambiguous, and, in some cases, may exacerbate pressures for state creation. Spatial models reveal significant spillover effects: decentralization in one state can deter conflict in neighboring regions, underscoring the interdependent nature of institutional reforms. This study contributes to the literature by integrating spatial dynamics into the analysis of fiscal federalism and conflict, and it provides policy-relevant insights for designing decentralization strategies that promote regional stability.

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# 1 Introduction

Fiscal federalism refers to the financial and institutional framework through which different levels of government—central, regional, and local—share responsibilities for revenue collection, expenditure, and policymaking. This framework determines how resources are allocated across regions and how intergovernmental transfers are structured, often shaping the equity and efficiency of public service delivery. Fiscal federalism can play a pivotal role in mitigating or exacerbating conflicts. On one hand, equitable resource allocation and fiscal autonomy for subnational entities can address regional grievances, promote local development, and enhance social cohesion. On the other hand, poorly designed fiscal arrangements, such as imbalanced revenue sharing or inadequate fiscal autonomy, can fuel perceptions of injustice, exacerbate economic disparities, and trigger or sustain conflicts, especially in ethnically or economically diverse regions. Thus, the effectiveness of fiscal federalism in managing conflicts depends on its ability to align fiscal policies with the demands for representation, equity, and autonomy.

Intergovernmental disputes are a frequent and inherent aspect of the decentralisation process. They are essential for achieving a balance among economic, political and institutional forces within countries ([Dougherty and Mota \(2024\)](#)). However, the frequency and nature of these disputes vary widely across countries. This variation is influenced by differences in the volume and significance of judicial rulings, and the unique socio-political contexts that shape judicial approaches to fiscal conflicts. Constitutional arrangements significantly influence the resolution of intergovernmental fiscal disputes. However, there is limited evidence of the integration of mediation or arbitration mechanisms within judicial systems to handle intergovernmental fiscal issues. Intergovernmental disputes are a frequent and inherent aspect of the decentralisation process. They are essential for achieving a balance among economic, political and institutional forces within countries. However, the frequency and nature of these disputes vary widely across countries. This variation is influenced by differences in the volume and significance of judicial rulings, and the unique socio-political contexts that shape judicial approaches to fiscal conflicts. Federalism helps to dampen or stopped internal conflicts in many developing countries. In Indonesia for example, the establishment of a regional self-government in 2005 help to tackle the conflict between Indonesian government and the Islamist Free Aceh Movement ([Bakke and Wibbels \(2006\)](#)). Similarly, in more culturally homogenous societies, governments have pursued federalism as a means to address regional conflict, as occurred in Colombia, or have decentralized existing federations to accommodate sharp regional differences, as occurred in Brazil. Likewise, decentralization and regional autonomy measures have figured prominently in debates about how to contain conflict in Afghanistan, Angola, Bosnia, Cyprus, Mozambique, Nigeria, South Africa, and Sri Lanka.

The results of [Deiwi et al. \(2012\)](#) show a negative relationship between regional inequalities and conflicts intensity in developing and under developed federal states. [Ebiede \(2022\)](#) in her paper on Nigeria argues that militants associated with armed groups gained significant power in communities due to their dominant roles in the persistent violent conflicts that have plagued the Niger Delta over the last two decades. This is evident in how those associated with armed militant groups influence and control community governance institutions in the region. However, people who are not aligned with militia groups are beginning to challenge the hegemony of those associated with militia groups. This process defines the prevailing dynamics of power relations violence cycle in the region.

While there is a substantial literature on the link between conflict and natural resources and that between decentralization and conflict, the relationship between conflict, natural resources and decentralization has received less attention. [Peluso \(2007\)](#) argues that failure in decentralization to redistribute wealth from natural resources has exacerbated conflicts in Indonesia. [Arellano-Yanguas \(2011\)](#) shows that new ‘localist’ policy paradigm in Peru with natural resources have increased local political conflicts. [Farzanegan et al. \(2018\)](#) addressed these issues by focusing on decentralization, highlighting how specific decentralization mechanisms can influence political stability. Results demonstrated complex dynamics where decentralization and quality of local institutions can mitigate the risk of internal conflicts in presence of natural resource endowments. [Humphreys \(2005\)](#) found that countries dependent on agricultural commodities are at risk, independent of their endowments of oil and diamonds. By using the case of Sierra Leone, he has concluded that it was vulnerable not simply because it had gems but because it had not gone through a process of industrialization and held within it clusters of rural communities with relatively weak commercial ties between them.

India is rich in mineral resources (coal, iron, bauxite, etc.). Exploiting these resources can significantly alter the distribution of wealth at local level. The sharing of wealth, but also land claims, land rights and environmental concerns can lead to conflicts between extractive companies, central government, local governments and local populations. India has adopted decentralization policies, but state autonomy varies from state to state. Some states have a degree of control over their natural resources, while others are dependent on the central government. **Is Indian decentralization design likely to mitigate the conflicts and also those linked to natural resources?**

Our paper makes a significant contribution to the literature on conflict and federalism by addressing two critical gaps. First, we disaggregate conflicts into distinct types, such as secessionist conflicts, state creation demands, and natural resource-related disputes, moving beyond the conventional approach of treating conflicts as a homogenous phenomenon. This categorization allows us to capture the unique dynamics and drivers of each type of conflict,

offering a more granular understanding of the interaction between federal structures and conflict triggers. Second, we introduce a robust measure of conflict intensity, leveraging data from the Armed Conflict Location & Event Data Project (ACLED). By aggregating data on fatalities at the state level for each year, and classifying events based on their objectives, we construct a standardized intensity measure. This measure adjusts aggregated fatalities in each state using the national mean and standard deviation for each type of conflict. Standardizing violence intensity against the national average ensures consistency across states with differing characteristics, enabling meaningful cross-state comparisons. This approach captures deviations in violence from the country’s overall trends, highlighting states with above-average or below-average violence relative to national norms. Such standardization allows us to account for historical tendencies toward peace or violence in each state while emphasizing variations that reflect broader conflict patterns. By incorporating this multidimensional approach—considering both the types and intensity of conflict—our study provides a richer, theoretically grounded perspective on how federal mechanisms influence conflict dynamics across diverse settings.

To do this we will use economic and demographic data from Reserve Bank of India (RBI) and conflicts data from ACLED dataset. These data compute by [Raleigh et al. \(2010\)](#) are widely used in the literature about conflicts ([Von Uexkull and Buhaug \(2021\)](#) and [Anderson et al. \(2021\)](#)) and India ([Ruijgrok \(2022\)](#) and [Naseemullah \(2018\)](#)). We can get a comprehensive dataset on Indian States economic and conflictual context between 1991 and 2020.

This paper proposes a model based on repeated games with imperfect information to analyze the strategic interactions between central and federated governments in a federal system. Building on the framework of game theory, the model examines how a central government’s uncertainty about the preferences of a federated region—moderate or radical—shapes its approach to granting autonomy and addressing secessionist pressures. In this context, the central government (GC) can either offer greater autonomy, including control over resources and governance, or maintain the status quo. The federated region (RF) responds strategically by cooperating and remaining in the federation or defying, potentially escalating to conflict or secession. The repeated game structure allows the GC to update its beliefs about the RF’s type based on observed behavior over time, balancing the risks of conflict with the costs of concessions. The model’s equilibrium predicts that properly calibrated autonomy transfers can mitigate conflict in moderate regions, while a combination of autonomy and federal interventions, such as "president rule," may stabilize radical regions. This framework aligns with the dynamics of federalism in resource-rich, secession-prone contexts, offering insights into conflict resolution and national integrity strategies. Empirical evidence from the

application of Article 365<sup>1</sup> in India supports the theoretical findings, suggesting that tailored approaches to autonomy can influence the occurrence and intensity of violent events across states.

This theoretical analysis is combined with an empirical one using 2SLS and instrumental variables (concentration of seats held at local parliament by political parties, and time since the creation of the state). Our results show that an increase in states autonomy (measured as expenditures and revenues side) reduce the intensity of secessionist and natural resources related conflicts. The effects on conflicts related to the creation of a new state seem to be more ambiguous.

The subsequent section on Indian ethnofederalism explores the political and institutional framework of federalism in India. The third part provides a theoretical framework and delves into the conceptual foundations that inform the study. Section 4 is focus on empirical methodology, and the Results section (section 5) presents the main findings of the study. After that, the Robustness section includes various tests to ensure the reliability of the results. Section 7 provides some spatial analysis while section 8 concludes the paper.

## 2 Indian ethnofederalism

India became independent from the British in 1947, the first constitution was enacted in 1950 and, as of 2019, there have been 102 amendments. Indian elites have struggled to balance internal diversity with a cosmopolitan identity and centralization with decentralization. Overall, they have leaned to the side of centralization ([Swenden \(2015\)](#) and [Jennings \(1953\)](#)). Unusual for a federation, the constitution is very detailed in prescribing the internal organization of each constituent unit. Also, the national parliament can unilaterally change State boundaries as well as the conditions governing State representation in the Senate. And, except for the State of Jammu and Kashmir, which (until 2019) had its own Constitution, the rest of the States have no separate constitutions of their own. From 1957, each State had a directly elected parliament, named the legislative council, and a centrally appointed governor. The governor holds executive power. He in turn appoints a council of ministers, with the chief minister at the head. The chief minister is the head of the local majority at the State parliament. The governor, on the advice of the chief minister, appoints members of the council of ministers– the cabinet that advises the chief minister. Despite the power vested in the chief minister, which includes advising the governor and chairing the legislature and the

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<sup>1</sup>Article 365 of the Indian Constitution empowers the central government to impose "President's Rule" in a state if it determines that the state government is unable to function according to constitutional provisions. This typically involves the dismissal of the state government and the assumption of its powers by the central government, often used in situations of political instability or perceived threats to national integrity.



council of ministers, the governor is more than a figurehead. They have considerable authority, including the right to dismiss State governments' discretion over a state's contingency fund, the ability to enter into and execute contracts, the ability to grant pardons and suspend, remit, or commute sentences of convicted persons, and in some cases, can appoint a small subset of State legislators. States have exclusive authority over local police, education, welfare (pensions, unemployment, and disability), the economy (trade and commerce within the state, money-lending, and lenders), and culture (theatres, sports, religious societies, libraries, museums, and other similar institutions controlled or financed by the State; ancient and historical monuments and records).

In terms of population, India is the world's largest multinational federation. It contains many sizeable religious, linguistic, caste, and tribal groups, plus many regional divisions. It is not unique in its diversity. However, it was one of the few decolonizing states that purposively incorporated that diversity into its constitution through territorial recognition and territorial redesign. Through the process of linguistic reorganization, India became what is known in the political science literature as an ethnofederation ([Adeney \(2018\)](#)), where at least one unit of the federation is associated purposively with an "ethnic" category. To ensure the unity of the nation Indian constitution introduce the article 365 or "president rule". It allows the President of India to take over the governance of a state if it fails to comply with or give effect to the directives issued by the Union Government. In such cases, the President can declare that the state government is not functioning in accordance with the provisions of the Constitution. This often happens when there is a constitutional breakdown, such as a failure of law and order or a situation where no political party can form a stable government. It is also often triggered by conflicts within a state, highlighting a complex relationship between governance and social stability. When a state's political situation deteriorates—due to violent unrest, severe law and order issues, or significant political fragmentation—such conflicts can lead to a failure of governance. In these scenarios, the central government may determine that the state is unable to maintain constitutional order or fulfill its obligations, prompting the invocation of President's Rule. When President's Rule is imposed, the executive authority of the state is transferred to the central government, and the state's legislative assembly may be suspended or dissolved

Even if [McGarry and O'Leary \(2009\)](#) considers that ethnofederation are unworkable, some authors like [Adeney \(2018\)](#) found the contrary. The latter considers that Indian ethnofederalism is one of accommodation rather than an increase in secessionist pressures. The literature ([Roeder \(2013\)](#) and [Cornell \(2002\)](#)) considers that ethnofederalism affect the interests of local elites to increase the sense of separateness. They do so by choosing the language(s) in which the unit operates and educates its children and university students,

changing the curriculum to promote “their” group’s heroes and version of history (thus influencing the next generation), as well as using the local media to depict “their” version of contemporary events (e.g. the Cauvery water dispute between Tamil Nadu and Karnataka in South India). Such control can solidify the boundaries of the group. By encouraging this sense of separateness, increasing the distinction between “us” and “them” (whether the “them” is a neighboring unit or is the center) ethnofederal institutions also increase the “group’s cohesion and willingness to act.” This willingness to act can be fuel by the fact that ethnofederalism provides territorially concentrated groups with increased institutional resources. These include a democratically elected legislature and chief minister, allowing them to lobby for more resources and/or reject central legislation ([Grigoryan \(2012\)](#)). Nagaland for example has been embroiled in territorial disputes stemming from colonial-era borders, with an insurgency seeking to alter them while navigating pressures from the Indian government. [Agrawal and Kumar \(2017\)](#) argues that these conflicts are driven by political-economic interests and cannot be resolved technically, as they are deeply tied to the unresolved issue of Naga identity and Nagaland’s position within India.

However, there is no necessary relationship between increasing institutional resources or ethnofederalism and a desire for secession. Not only is secession never the easy option ([Dion \(1996\)](#) and [Madiès et al. \(2018\)](#)), but a rallying cry for secession will only be successful if the group feels its identity and interests are not protected within the ethnonational unit. If the instrumentalist position that identities are situational and subject to mobilization by elites ([Brass \(2024\)](#)) is accepted, then ethnofederal institutions create the conditions where it is not in elite interests to pursue secession. Elites need a motivation to pursue secessionism (and of course, the population needs to be motivated to respond to them). This motivation is more likely to arise if they do not have the opportunities to have their interests protected: whether these interests are defined in terms of the patronage that state power allows them to capture or in terms of cultural promotion.

### 3 Theoretical framework

In this theoretical model, it seems relevant to consider two possible states of nature: The case of heterogeneity at the local level and that of relative homogeneity from an ethnic perspective at the local level. This choice is based on the work of Tranchant 2010 ?. Local minorities in some states may feel excluded from the implementation of stronger autonomy in that state. Thus, the state of Assam had great ethnic and religious diversity. At the periphery of Assam lived certain tribal groups (Mizos, Nagas, Khasi...), who are local minorities. This means that they were concentrated in Assam, but none of these groups constituted the majority of

the state's population. The rebellions launched by these ethnic groups contributed to the creation of the states of Mizoram and Nagaland, among others.

The payoffs of this game are decomposed as follows. **In a situation of relative homogeneity within the state**, the establishment of a cooperation agreement between CG and LG generates payoffs of  $v - k$  for the central government.  $v$  represents the gains from cooperation (such as better resource allocation), and  $k$  represents the administrative costs incurred and the loss of political power of the central government. However, these costs are considered lower than the economic gains, thus,  $v - k > 0$ . The local government, in turn, obtains a payoff equal to  $\alpha > 0$ , corresponding to the economic and political advantage of this autonomy. It allows the local government to make its own decisions and implement policies aligned with its cultural and/or ethnic values.

If the local government refuses to cooperate with a central government that grants it autonomy, the payoffs are defined by  $-c$  and  $-d$ .  $c$  represents the cost of fiscal and political inefficiency combined with the costs of a conflict with armed groups at the local level.  $d$  represents the cost of non-cooperation with the central government. It is similar to the costs for the local government but includes an additional political cost. Knowing that it was offered an autonomy opportunity but refused it to engage in conflict with the CG, the LG can no longer appear to the population as the defender of local ethnic identity.

The situation where the CG refuses to grant autonomy and the LG accepts this state of affairs would lead to a *status quo*. The payoffs in this situation are therefore zero.

The final configuration for the first state of nature would be the case of an open confrontation. The CG refuses to grant autonomy, and the LG does not accept this situation. Both players find themselves in a conflict that costs the central government  $e$  due to the direct costs of the conflict and political instability. On the local government's side, the costs incurred ( $f$ ) due to military and economic repression are partially offset by local support if it presents itself as the defender of a local identity against a central state refusing to grant more autonomy. As a result, it is assumed that  $|d| > |f|$ , so that  $-d < -f$ .

**In the second state of nature with relative heterogeneity** within the region, the actors' reactions and payoffs will be different. For example, if the central government grants autonomy and the local government accepts it, its payoffs are defined as  $\beta - \delta$ . In this context,  $\beta$  represents the gains associated with greater autonomy. However,  $\beta$  differs from the benefits in a homogeneous case due to structural differences related to heterogeneity. Thus,  $\beta < \alpha$ . This gain is reduced by  $\delta$ , which represents the loss suffered by ethnic or armed groups excluded from power and deprived of access to the resources that greater autonomy provides.

The central government's situation remains unchanged, as it finds it more beneficial to

avoid armed conflict and instead pursue negotiations. A similar situation arises when the central government refuses to grant autonomy and the local government refuses to cooperate. In this case, the situation is optimal for the local government, which can claim to defend autonomy and the values of its ethnic group against a central state that ignores them. The cost of conflict is offset by the ability to assert the identity of the ethnic (or armed) group that represents a local minority. Despite its costs, this conflict may appear as a necessary sacrifice against a CG that refuses to acknowledge local demands. This explains the gain  $\kappa > 0$  for the LG, while the CG incurs a loss of  $-e$  due to the direct and indirect costs of the conflict.

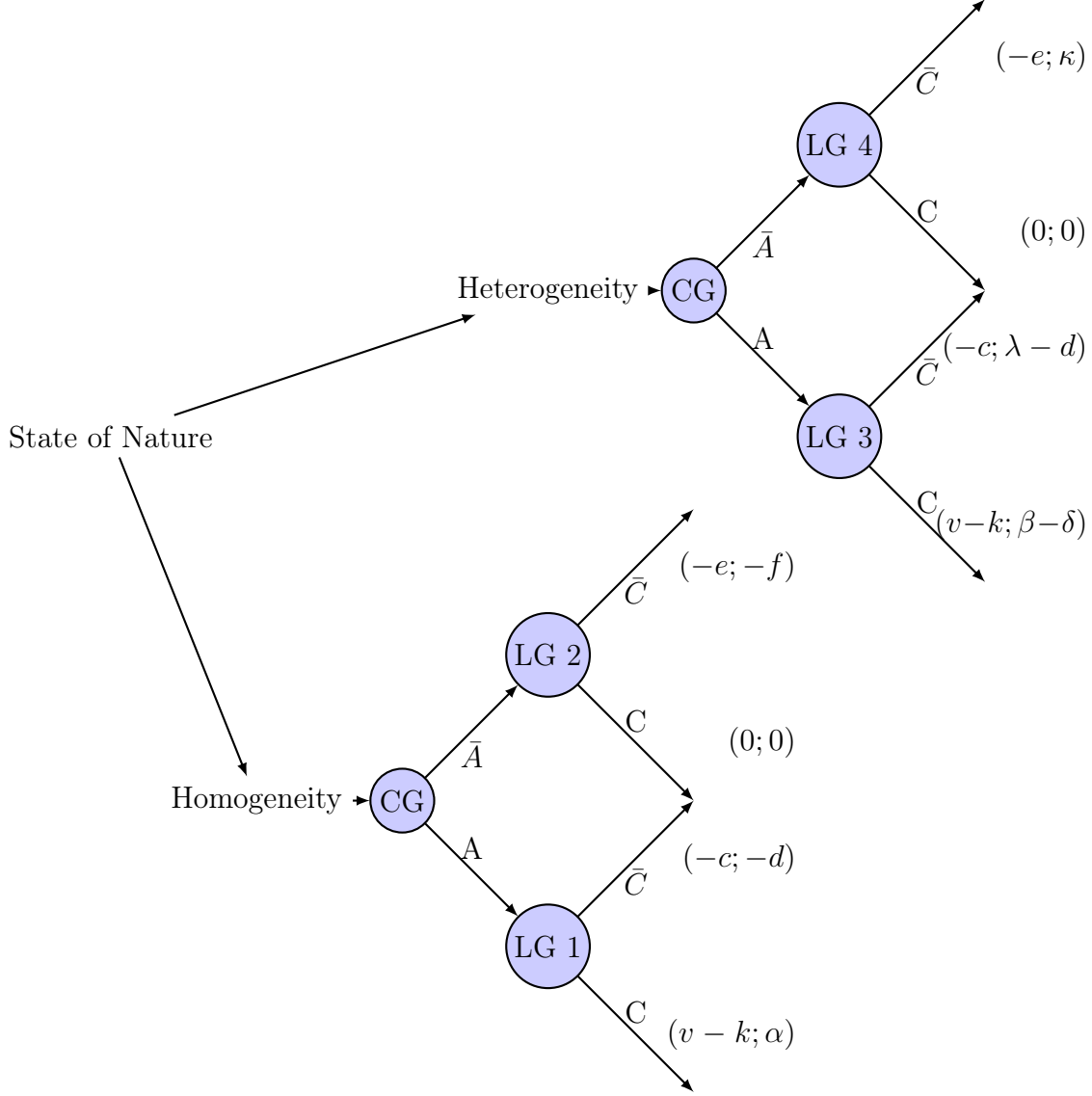
The *status quo* corresponds to the optimal situation for a central government that refuses to grant autonomy in a context of local heterogeneity, and where this decision is accepted locally. The payoffs are therefore zero due to this status quo.

In the last scenario for the second state of nature, the central government decides to grant autonomy while the local government refuses to cooperate. In this case, the central government incurs conflict costs  $-c$ , as in the first state of nature.

The change occurs for the local government. For the latter, refusing to accept greater autonomy and engaging in conflict results in costs of  $-d$ . However, in addition to these costs, there is a gain  $\lambda$  due to the acknowledgment of local heterogeneity. Indeed, local minorities and their representatives (armed or political) can present themselves as protectors and advocates of their group's culture against the central government and the local majority. The local majority may also benefit from this conflict by pushing local minorities out of the local parliament. This allows the establishment of a relatively homogeneous state from an ethnic perspective. The potential creation of a federated state due to the existence of pockets of local minorities, combined with the economic, political, and financial advantages of forming this new state, makes long-term gains greater than the short-term costs of conflict.

Thus,  $\lambda \succ c > 0$  and  $\lambda - d > \beta - \delta$ . In a context of high ethnic heterogeneity, local minorities may be incentivized to engage in conflict to obtain their own state rather than remain marginalized within a federated state. Federalism provides economic and political advantages to autonomous entities, but when a dominant group controls the federated state, minorities may be deprived of fair access to resources and representation. The creation of an independent state would allow them to maximize these benefits, exercise political control, and ensure their own development, making conflict a rational strategy in response to perceived unjust domination.

The tree diagram below represents the game with the associated payoffs.



### 3.1 Players' Strategy

In the first state of nature, characterized by strong homogeneity within the State, the strictly dominant strategy of the local government is to grant autonomy. The strategy of the local government is to cooperate by accepting this autonomy in order to avoid conflicts. The Nash equilibrium is thus reached when both players agree to cooperate, with the central government granting autonomy and the local government accepting it.

In the second state of nature, with relative heterogeneity, the situation becomes more complex. The ideal configurations for the central government would either be the status quo, where it refuses to grant autonomy and the local government accepts this situation, or cooperation between both governments (local and central). However, knowing that

$\lambda - d > \beta - \delta$ , the local government has no interest in maintaining the status quo or cooperating with the central government.

In this second state of nature, the central government, aware that the status quo is not an option, finds that its optimal strategy is to grant autonomy. Conflict is not a viable option for the central government despite its military power. Indeed, refusing autonomy and engaging in conflicts with various groups could become complicated from a military perspective due to the multiplication of fronts. A conflict would also have negative effects on economic activity, both in the affected States and in neighboring States, due to spillover effects (Couttenier et al., 2022 [Couttenier et al. \(2022\)](#)). Anticipating this strategy of the central government, the local government has every incentive to refuse cooperation, thus creating a conflict.

## 4 Empirical methodology

### 4.1 Data

The data used in this paper come from Reserve Bank of India. Its datasets provide an interesting and wide range of detailed data about economic situation of Indian States and Union Territories (UT). The political variables have been collected from Indian electoral commission. Finally, the data about conflicts come from ACLED (Armed Conflict and Location Event Dataset) introduced by [Raleigh et al. \(2010\)](#) and used by [Dowd and Tranchant \(2018\)](#) and [Depetris-Chauvin et al. \(2020\)](#).

For the outcome variable, we used a standardization process of our intensity variable. With ACLED, we are able to have the number of death for each conflict. By aggregating these data at states level, we are able to know how many fatalities occur in a state during a specific year. In addition, ACLED data provide information about the different actors. By identifying the different actors and their motivations, we are able to classify the event by "objectives" (secession, creation of a new state, natural resources management,...). We also standardize these aggregated data for each state by using country fatalities means for each type of event. Indeed, standardizing violence intensity by using the country's average and standard deviation for each year ensures consistency across states with different characteristics. By anchoring the standardization to the national average, violence in each state is measured relative to the overall situation in the country for that specific year. This approach adjusts for national trends and variations, making it possible to compare states regardless of their historical tendencies toward violence or peace. In more violent states, intensity levels will be assessed based on how they differ from the country's typical violence levels, rather than just their internal patterns. Similarly, less violent states will be evaluated in the same way,

allowing for meaningful cross-state comparisons. This method highlights which states are experiencing above-average or below-average violence relative to national norms, helping to account for different baselines while focusing on deviations that reflect the overall intensity of violence in the country. [Weingart et al. \(2015\)](#) argues that individual differences, such as personality, conflict experience, organizational and cultural norms, and the history of conflict, can shape one’s perception of a conflict. The formula for the computation of standardized intensity of conflicts will be:

$$Intensity_{ijt} = \frac{(fatalities_{ijt} - fatalities\_mean_{jt})}{standard\_deviation_{jt}} \quad (1)$$

Where  $Intensity_{ijt}$  represents the conflict’s intensity of type  $j$  in state  $i$  for year  $t$ .

As interest variables we use both side of fiscal federalism. Revenues autonomy and expenditures ones. We measure revenues autonomy by using a ratio between won local revenues of states  $i$  at year  $t$  on their total revenues. Expenditure autonomy is more complex to measure but can be a determinant of conflict occurrences and intensity. However, ? considers that what matters from the viewpoint of ethnic conflict is the groups’s capacity to influence public spending at various levels of government. To compute our expenditure autonomy measure, we compute the ratio of local public spending of states  $i$  at year  $t$ , but we exclude the targeted transfers (Centrally Sponsored Schemes) that are decided by central government and spent through local ones.

As control variables we used urbanization rate within the states as explained by [Gizelis et al. \(2021\)](#). Indeed, they found that urban population growth is associated with increased unrest. Higher GDP per capita can reduce conflict occurrence and intensity by increasing economic opportunities and improving living standards, which reduces incentives for rebellion or violence. The effects will differ according to the type of poverty as explained by [Goodhand \(2003\)](#). Additionally, larger population sizes may increase conflict likelihood ([Raleigh and Hegre \(2009\)](#)), as high-density regions can experience greater competition over limited resources and may have more complex social dynamics that heighten tensions. A fiscal rule, such as a budgetary constraint imposed by the government, can also influence conflict. Strict fiscal rules that reduce spending flexibility might intensify conflicts if the population feels neglected or underserved, particularly in volatile regions. Conversely, well-designed fiscal rules that ensure steady funding for public services can foster stability, as adequate resource allocation helps address social grievances and reduces motivations for conflict.

Table 1: Controls summary statistics

Variable	Mean	Std. Dev.	Min.	Max.	N
state autonomy	48.938	25.713	5.466	100	887
log(GDP per capita)	10.287	1.061	7.886	12.832	942
Urbanization (%)	33.568	19.098	7.98	99.900	870
trend	16.815	9.352	1	33	942
fiscal rule	0.381	0.486	0	1	942
log(population size)	20.847	0.125	20.608	21.025	843

## 4.2 Stylized facts

The next figure (figure 1) represents the repartition of event which have for objectives the creation of a new states within the union. We can observe a than the median is particularly high for Assam. This could be explain by activities of groups like Dima Halam Daogah (DHD) which want to create a separate State of 'Dimaraji' for the Dimasa ('sons of the great river') tribe, comprising Dimasa dominated areas of the North Cachar Hills and Karbi Anglong districts of Assam.

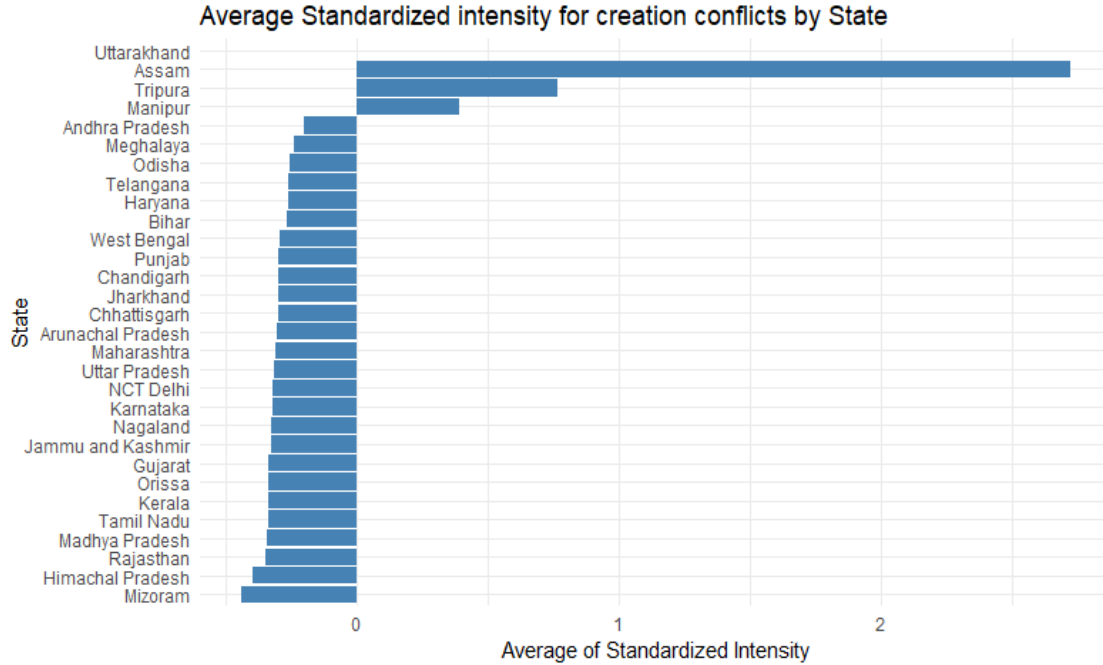


Figure 1: Conflict intensity reaprtition by states



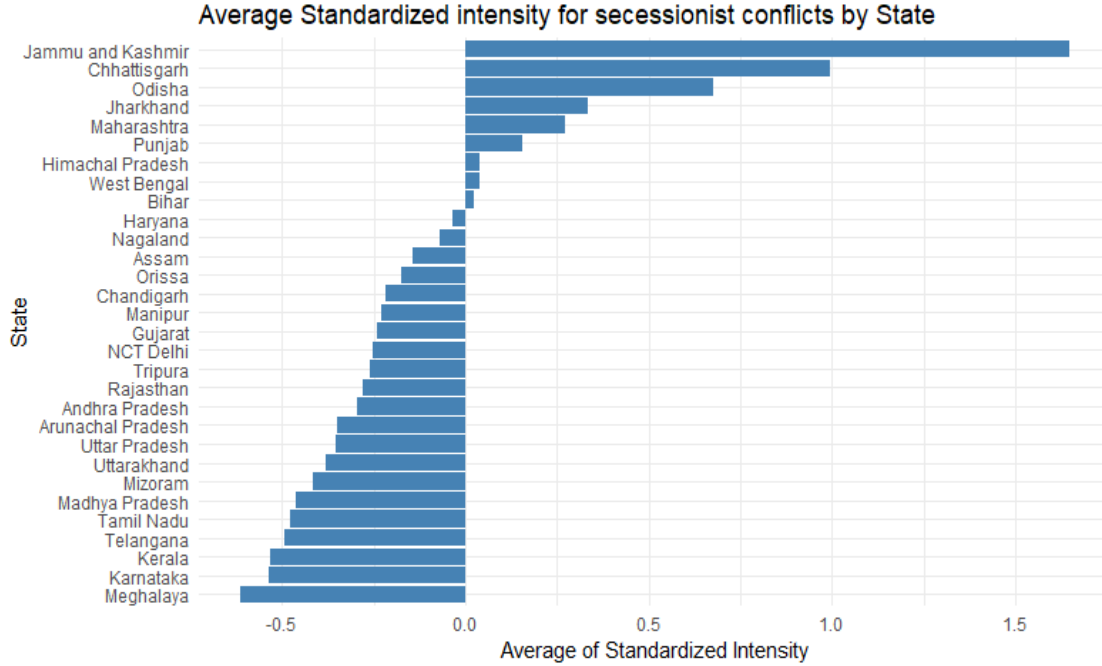


Figure 2: Conflict intensity reaprtition by states

### 4.3 Identification strategy

To empiracally assess the effects of states autonomy on conflict intensity, we used a Two Stage Least Square (2SLS) model. This method has been also used by [Sanogo \(2019\)](#), [Bartolini et al. \(2019\)](#) and [Tselios \(2023\)](#). The use of Two-Stage Least Squares (2SLS) is particularly valuable in analyzing the effects of states’ autonomy on conflict intensity, as it addresses potential endogeneity issues that may bias the results. In this context, endogeneity can arise from two main sources: reverse causality and omitted variable bias. For example, while greater autonomy might influence conflict by either increasing or decreasing local grievances or resource control, higher conflict levels could also push states to either demand more autonomy for self-governance or receive more centralized intervention. Additionally, unobserved factors—such as historical ethnic tensions or local economic conditions—could simultaneously influence both the degree of autonomy granted and the intensity of conflict, creating omitted variable bias.

By applying 2SLS, we introduce an instrumental variable that is correlated with states’ autonomy but not directly related to conflict intensity, thus isolating the causal impact of autonomy on conflict. In the first stage, 2SLS uses the instrumental variable to predict the level of autonomy, effectively filtering out the endogenous variation. In the second stage, the predicted values from this first stage are used to assess the impact of autonomy on conflict intensity. This method allows for a more accurate estimate of the causal effect, providing

insights into whether autonomy alleviates or exacerbates conflicts without being confounded by reverse causality or omitted factors. This is particularly useful for policy implications, as it offers a clearer understanding of the consequences of decentralization policies on regional stability.

As instrumental variables, we used duration since the creation of the states, and political fragmentation at local parliament through a Herfindahl-Hirschman index. Duration since a state became autonomous and the level of political fragmentation in local parliaments are critical factors influencing state autonomy. Over time, states that have been autonomous for longer periods may develop more robust institutional frameworks, leading to increased stability and effectiveness in governance (Broschek (2010)). This stability can enhance the capacity of local governments to exercise autonomy in decision-making and policy implementation. Conversely, high political fragmentation within local parliaments can hinder coherent policy formation and implementation, as competing factions may struggle to reach consensus. This discord can affect the practical exercise of autonomy, as fragmented political landscapes often lead to policy paralysis. Therefore, the duration of autonomy acts as a potential instrumental variable, capturing the long-term evolution of governance structures while accounting for the impact of political fragmentation. This relationship allows for a deeper understanding of how these factors collectively influence the effectiveness and degree of state autonomy, providing insights into the dynamics of federalism and local governance. The Herfindahl-Hirschman index has been computed as follow:

$$HHI = \sum_{i=1}^N s_i^2$$

Where  $s_i$  is the share of seats held by party  $i$  and  $N$  is the total number of parties.

The graph ?? summarize the relationship between time since state's creation and their tax autonomy level. This result goes in the same way than the conclusion of Vu (2021) who found that accumulated statehood experience, up to a point, strengthens fiscal and legal capabilities, leading to a more egalitarian distribution of income. However, excessive state experience is associated with early emergence of extractive institutions and powerful elites, resulting in persistent inequality. Graph .5 also available in appendix section provides a negative relationship between HHI (so political fragmentation at local parliament) and tax autonomy.

In a typical Two-Stage Least Squares (2SLS) approach, we start with the following structural equation, including state ( $i$ ) and time ( $t$ ) fixed effects:

$$Y_{it} = \beta_0 + \beta_1 FD_{it} + \gamma_1 X_{it} + \mu_i + \lambda_t + \epsilon_{it} \quad (2)$$

where  $Y_{it}$  is the dependent variable,  $FD_{it}$  is the endogenous explanatory variable,  $\mu_s$  represents state fixed effects,  $\lambda_t$  represents time fixed effects, and  $\epsilon_{it}$  is the error term.

Since  $FD_{it}$  is endogenous, we need to use an instrumental variable  $Z_{it}$  in the first stage. The first stage of 2SLS can be expressed as:

$$FD_{it} = \pi_0 + \pi_1 Z_{it} + \mu_i + \lambda_t + u_{it} \quad (3)$$

where  $Z_{it}$  is the instrumental variable and  $u_{it}$  is the error term in the first stage.

After estimating the first stage, we obtain the predicted values of  $FD_{it}$ , denoted as  $\hat{FD}_{it}$ . In the second stage, we substitute  $\hat{FD}_{it}$  into the original equation:

$$Y_{it} = \beta_0 + \beta_1 \hat{FD}_{it} + \gamma_1 X_{it} + \mu_i + \lambda_t + \epsilon_{it} \quad (4)$$

This equation allows us to estimate the parameter  $\beta_1$  consistently, controlling for both state and time fixed effects.

## 5 Results

The results seem to suggest a negative effect of taxes autonomy on conflict intensity. Federalism measured as share of own local revenues seems to dampen intensity of conflict which have as objectives the creation of a new state or secession from the Union. Indeed, federalism in terms of revenue in India can dampen the intensity of conflict by promoting equitable resource distribution and empowering local governments. When states have greater control over their revenue sources, they can tailor fiscal policies to meet the specific needs of their populations, addressing disparities within their borders and grievances. By providing states with a stake in the economic well-being of their constituents, revenue-based federalism can mitigate tensions and promote stability, ultimately reducing the likelihood of violent conflict. These results are similar to those of [Brancati \(2006\)](#) who found that decentralization decreases ethnic conflict and secessionism directly by giving groups control over their own political, social and economic affairs.

	<b>Secession</b>	<b>Creation</b>	<b>Natural</b>
	(1)	(2)	(3)
<i>Autonomy</i>	-0.006*** (0.002)	0.003 (0.003)	-0.010*** (0.003)
Observations	508	508	508
$R^2$	0.097	0.166	0.012
Adjusted $R^2$	0.084	0.154	0.002
Residual Std. Error (df = 500)	0.797	1.011	0.888

Table 2: IV Regression Results for revenue federalism

**Note:** \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Results are also similar for spending side of federalism. Indeed, when expenditure powers are devolved, states can design social services, infrastructure, and welfare programs that are responsive to local needs, addressing specific regional grievances that might otherwise fuel conflict. For example, when healthcare, education, and employment are provided at a regional level, there's less likelihood that marginalized groups will seek autonomy as a solution to their problems. Expenditure federalism also allows regions to express their unique cultural identities through local policies without resorting to secessionist measures. States can allocate funds toward programs that honour and preserve local languages, traditions, and cultural practices, reducing cultural tensions by reinforcing a sense of belonging within the larger federal framework. In addition, by directing federal funds to regions that are conflict-prone, expenditure federalism can address socio-economic issues underlying secessionist tensions. When federal spending targets fragile regions for development, job creation, and security, it can weaken the appeal of secession by creating more stability and prosperity ([Eaton \(2006\)](#)).

	<b>Secession</b>	<b>Creation</b>	<b>Natural</b>
	(1)	(2)	(3)
<i>Decentralization</i>	-0.155*** (0.046)	0.122** (0.053)	-0.247*** (0.057)
<b>Observations</b>	508	508	508
<b><math>R^2</math></b>	0.461	0.186	0.236
<b>Adjusted <math>R^2</math></b>	0.403	0.106	0.190
Residual Std. Error (df = 501)	1.003	1.163	1.259

Table 3: IV Regression Results for spending federalism

**Note:** \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

The combined structure of tax and spending federalism means that regional disparities in both fiscal capacity and spending autonomy can be addressed through central redistribution, but with enough independence to respect regional autonomy. Such a balance ensures that no region feels marginalized to the extent of secession. When states are more financially autonomous, but still benefit from federal support, they have a stake in maintaining the current system for economic security. This reduces incentives to pursue statehood or secession, as states realize they benefit more within the union than outside of it. Federalism creates a platform for accommodating political demands through institutional channels rather than conflict. By enabling power-sharing and collaboration between central and regional governments, federalism can offer a political outlet for grievances that might otherwise manifest as violent movements. This responsive political structure reduces the intensity of such conflicts by presenting alternatives to secession or new statehood. While federalism alone cannot eliminate conflicts, it provides a framework to address economic and cultural grievances, and if used effectively, it can substantially reduce the intensity of conflicts by meeting local demands through peaceful, integrative mechanisms. The results go in the same way than those of [Siegle and O’Mahony \(2006a\)](#) who found that decentralization initiatives that support increased levels of local government expenditures, employment, and elected leaders have been less likely to succumb to ethnic conflicts.

## 6 Robustness

### 6.1 alternative indicator of intensity

To ensure the robustness of our results we investigate further the analysis to check potential effects on occurrences of conflicts instead of intensity. The computation is similar to the intensity one.

$$Occurrences_{ijt} = \frac{(number_{ijt} - mean_{jt})}{standard\_deviation_{jt}} \quad (5)$$

Examining how federalism—through taxation and spending—affects both the intensity of individual conflicts and the yearly number of events provides valuable insight into conflict dynamics. While intensity measures the severity of each event, occurrences, defined as the annual number of events, capture the persistence and spread of conflict. Decentralized tax and spending powers within a federal system can enable local governments to address region-specific grievances, potentially reducing both the frequency of conflicts and their intensity. For instance, effective public spending on social services or infrastructure could alleviate economic disparities that might otherwise fuel recurrent unrest. By analyzing both dimensions, we

can better understand how fiscal federalism may contribute to regional stability, whether by reducing the triggers of conflict or limiting the severity of violence when conflicts occur, leading to more informed policy recommendations.

The results are available in the appendix section (tables [B.1](#) and [B.2](#)). These results paint a compelling narrative about the contrasting roles of autonomy and decentralization in shaping conflict dynamics. Autonomy, reflecting the revenue federalism dimension, appears to have a stabilizing influence, particularly on secessionist and natural-resource-related conflicts. The negative and significant coefficients suggest that when states have more control over their revenue generation, the pressures that often lead to these conflicts are alleviated. This might be because states with financial autonomy are better equipped to address local grievances and fund tailored policies, reducing the incentives for groups to push for secession or clash over natural resources.

In contrast, decentralization, which captures spending federalism, tells a more nuanced story. The results indicate that decentralization is associated with higher secessionist pressures and reduced stability, especially in resource-related contexts. While spending power can empower states to address local needs, the lack of matching revenue control might create inefficiencies or feelings of dependence on the central government, fueling dissatisfaction. Moreover, decentralization may inadvertently empower local elites or actors whose agendas conflict with broader national stability, or generate an interest to have a control on the use of money at local level ([Tranchant \(2010\)](#), [Fisman and Gatti \(2002\)](#)). These findings highlight a tension between empowering states financially and giving them the spending autonomy to act on those resources. It underscores the need for a careful balance: revenue autonomy appears to mitigate conflict, but spending federalism, without complementary mechanisms, may exacerbate it, especially in regions already prone to unrest.

## 6.2 Placebo test

I now examine whether there are confounding factors that could affect the results, which have remained stable so far (especially for conflicts' intensity). The empirical literature shows that the adoption of an economic policy or implementation of fiscal reforms is generally associated with parallel reforms, making the variation of conflicts' intensity a non-random factor. One could therefore imagine that unobservable variables correlated with outcome and potentially with the outcome variable could affect the baseline results. While I am aware that the empirical — method used in this study aims to address these types of concerns, I still — strengthen the results by conducting a placebo test on conflict intensity. To do this, I randomly attributed some values for intensity conflict by keeping some characteristics of

the original distribution (mean, maximum and minimum). The main idea behind this test is that if the results are biased by unobservable variables, the placebo — test might also show significant effects. Random treatments within the sample do not affect my conflicts’ intensities measures (Table 4, in Appendix). Therefore, I can rule out the possibility of confounding — factors influencing our results.

## 7 Spatial analysis

### Spatial modeling approach

To ensure that our results are robust, we must consider the fact that conflicts and their determinants, such as armed groups’ activities, often exhibit spatial interdependence across regions. An increase in state autonomy in State  $i$  could influence the intensity of conflict in neighboring states, either directly through spillover mechanisms or indirectly by altering the strategic calculations of armed groups. For example, greater autonomy in one state may encourage armed groups in contiguous areas to reduce their demands or redistribute their efforts, leading to a spatial reallocation of conflict intensity. Considering spatial effects is therefore indispensable when analyzing the relationship between federalism and conflicts (Mainali et al. (2022)). Conflict dynamics are rarely confined within administrative boundaries, and neighboring regions often share economic, political, and cultural linkages that amplify interdependencies. These connections can manifest as shared grievances, cross-border recruitment, or the spillover of violence. Additionally, policy measures implemented by one state to address conflict may inadvertently affect neighboring states, either by diffusing violence or by altering incentives for armed groups in the region. Ignoring these spatial dependencies could bias the analysis, underestimating the broader effects of federalism and state-level policies on regional stability. The graphs 1a and 1b in the appendix section show a significant concentration of conflict intensity in specific states, and more generally in the eastern states. This observation raises concerns about the potential spatial effects of these conflicts (in 2019). To address these concerns, we combine two complementary spatial econometric approaches: the Spatial Error Model (SEM) and the Spatial Autoregressive Model (SAR). The SEM explicitly incorporates spatial autocorrelation in the error terms, which is especially useful when unobserved factors—such as regional governance quality or historical grievances—affect conflict intensity and are spatially correlated. The SEM framework corrects for these hidden influences, isolating the effect of observed variables such as autonomy and decentralization. The SAR model, in contrast, assumes that conflict intensity itself is spatially autocorrelated—that is, that outcomes in one region directly influence outcomes in

neighboring ones. This is appropriate when behaviors, institutions, or shocks diffuse across borders through imitation, contagion, or coordination. By employing both models, we capture distinct but complementary spatial mechanisms: outcome-driven spillovers across neighboring units (SAR), and structural spatial dependence due to unobserved contextual factors (SEM). This dual strategy improves the robustness of our findings and avoids conflating direct causal effects with spatial dependencies. In the sections that follow, we detail the specification and estimation of each model and interpret their respective results. We formally specified below the econometric models to assess.

**Spatial Error Model (SEM)** The SEM captures spatial correlation in the error term and is specified as follows:

$$y_{it} = X_{it}\beta + u_{it}, \quad u_{it} = \lambda W u_{it} + \epsilon_{it} \quad (6)$$

where  $y_{it}$  denotes the intensity of conflict in state  $i$  at time  $t$ ,  $X_{it}$  is a matrix of explanatory variables (including autonomy, decentralization, and controls),  $\beta$  is a vector of parameters,  $W$  is the spatial weights matrix,  $\lambda$  is the spatial error coefficient, and  $\epsilon_{it}$  is an i.i.d. error term.

**Spatial Autoregressive Model (SAR)** The SAR accounts for spatial dependence in the dependent variable:

$$y_{it} = \rho W y_{it} + X_{it}\beta + \epsilon_{it} \quad (7)$$

Here,  $\rho$  captures the strength of spatial spillovers, with  $W y_{it}$  representing the spatially lagged dependent variable. As before,  $X_{it}$  includes autonomy, decentralization, and relevant controls, and  $\epsilon_{it}$  is the disturbance term.

These specifications provide two complementary lenses on spatial dynamics: the SEM corrects for omitted spatially correlated influences, while the SAR identifies how conflict levels propagate across space.

## Results

The results of the spatial analysis are available in appendix section and provide an interesting perspectives on the relationship between federalism and conflicts. Indeed, the results highlight the impact of autonomy on three distinct outcomes within a spatial error model framework, providing insights into the relationship between autonomy and various socio-economic indicators. The coefficient for autonomy is statistically significant in two of the three models, with magnitudes of -0.0148 and 0.0053, suggesting that autonomy has a negative association in one context and a positive association in another (by considering spatial model). This



variation indicates that the effect of autonomy may depend on the specific outcome being examined. The coefficient  $\Lambda$  in the Spatial Error Model (SEM) represents the spatial dependence of intensity in different types of conflicts. A negative and statistically significant  $\Lambda$  across all models indicates that the intensity of conflict in one region is negatively correlated with the intensity in neighboring regions. This suggests that when one region experiences a high intensity of conflict, surrounding regions tend to have lower levels of conflict intensity. One possible explanation for this is that conflicts may be concentrated in certain areas due to regional dynamics such as political instability, competition for resources, or governance issues (Siegle and O'Mahony (2006b)), which could reduce the likelihood of conflict in neighboring regions. Additionally, the presence of ethnic or armed groups that operate across borders may explain these spatial patterns. These groups could be incentivized to attack in one region due to geographical or economic factors, such as access to resources, strategic positioning, or political vulnerabilities, while neighboring regions might be spared if they offer less incentive or resistance. For example, regions with greater autonomy might be able to address underlying issues like resource allocation or political grievances, potentially reducing conflict intensity locally but possibly exacerbating tensions in nearby regions. The spatial dependence of conflict intensity highlights the interconnectedness of regions and suggests that conflicts do not occur in isolation, but rather spill over or influence one another across borders. Understanding these spatial patterns is crucial for designing policies that aim to reduce conflict in one region without inadvertently increasing it in neighboring areas.

The SAR model estimations provide a more granular view of how autonomy and decentralization influence different types of conflict. The table below reports the estimated coefficients and standard errors for the variables of interest—autonomy, decentralization (measured as spending autonomy), and their spatial lag counterparts—across the three conflict types. The results reveal important spatial dynamics in the relationship between federalism and conflict. In *creation*-related conflicts, both autonomy and its spatial lag are statistically significant and positive, while spending autonomy at the local level is not significant, and its spatial lag is negative and highly significant. These findings suggest a complex pattern: higher local autonomy may raise demands for statehood, while increased spending autonomy in neighboring states might discourage such claims by making devolution short of full statehood appear viable. This stands in partial contrast to the IV results, where autonomy showed no significant effect and spending autonomy (decentralization) had a positive and significant relationship with creation-related conflict. The SAR model thus suggests that the local effect of spending autonomy may be overstated in models that ignore spatial spillovers. In fact, the spatial lag of spending autonomy has a strong negative association with state creation conflict, indicating that institutional reform in one region can deflate parallel demands elsewhere.

In *secessionist* conflicts, the SAR results show no significant direct effects for autonomy or spending autonomy, but again the spatial lag of spending autonomy is negative and significant. This suggests a regional deterrent effect: when nearby states are empowered fiscally, it may reduce incentives to escalate secessionist claims locally. One possible explanation is that fiscal decentralization in neighboring states signals the viability of peaceful institutional accommodation, leading minority groups to reconsider violent strategies and engage instead through political channels. In such a context, subnational elites or marginalized ethnic groups observing successful reforms elsewhere may shift from confrontation to negotiation, entering the institutional game with expectations of achieving meaningful concessions over time. This adjustment in strategy helps de-escalate conflict intensity by framing decentralization not as a zero-sum demand, but as a step toward inclusion. These dynamics align with theories of endogenous conflict resolution, where groups internalize the potential rewards of institutional integration when the system appears increasingly responsive and representative. More broadly, this pattern supports the idea that fiscal reforms in one state send institutional signals across borders. These signals can reshape the perceived payoffs of conflict versus cooperation, especially in federal systems where regional coordination, political imitation, and elite bargaining are frequent. The effectiveness of decentralization therefore transcends local boundaries and functions as a regional public good in conflict management. Furthermore, the presence of trans-state ethnic or armed networks may amplify these spatial effects. Armed groups or regional coalitions operating across multiple territories might respond to reforms in one area by reducing activities in another, reallocating strategic efforts based on relative political opportunity structures. In this way, institutional developments in one state can lead to a reconfiguration of conflict geography, redistributing contestation away from regions where reform is perceived as viable. Turning to fiscal autonomy (autonomy), the positive coefficient for creation-related conflict indicates that when states possess more discretion over their own revenues, they may also develop stronger institutional capacities and ambitions. This can embolden regional elites to push for full statehood as a means to consolidate power and access federal transfers more directly. Conversely, the negative spatial lag of autonomy suggests that when neighboring states hold greater fiscal autonomy, the local pressure for state creation diminishes, possibly because the central government is perceived as more flexible or responsive across the federation. This apparent contradiction between the SAR and IV results can be interpreted econometrically. IV estimates capture an average treatment effect of local decentralization on conflict, assuming spatial independence. In contrast, the SAR explicitly models interdependence in outcomes, revealing how reforms in one location shape outcomes in another. When spatial dynamics are omitted, as in IV, conflict responses may appear stronger because they fail to account for offsetting effects in neighboring units.

The SAR highlights that some of the conflict-mitigating effects of fiscal autonomy might be externalized. Overall, the SAR results qualify and refine the IV findings. While IV regressions pointed to a conflict-dampening role of spending autonomy, the SAR model reveals that such effects may be primarily external rather than internal to the reforming state. These findings emphasize the importance of spatially aware policymaking: institutional reforms may influence conflict patterns beyond the territories where they are enacted. Our SAR results also suggest that these effects are not uniformly local. Instead, decentralization generates regional externalities that can either deter or inspire demands in neighboring jurisdictions. Federalism thus functions as both a conflict management mechanism and a policy tool for regional integration. The SAR results underscore the importance of designing decentralization policies that account not only for intra-state equity and representation, but also for their inter-state effects. Ignoring these spatial linkages would underestimate both the risks and the benefits of fiscal and institutional reform.

## 8 Conclusion

## 9 Conclusion

Through this work, we have evaluated the effects of fiscal federalism—measured through tax and spending autonomy—on the intensity of different types of conflicts (secessionist, related to state creation, or natural resources) for a panel of Indian states over the period 1991–2020. To answer this question, we used 2SLS estimation methods and combined our analysis with a spatial analysis to account for interregional spillovers in conflict dynamics.

Our results suggest that federalism plays a dual role in conflict mitigation, but the nature and direction of its effects depend on the type of autonomy and the conflict in question. Tax autonomy—reflecting revenue federalism—consistently shows a conflict-dampening effect, particularly on secessionist and resource-related violence. States with more control over their own revenues are better positioned to address economic and cultural grievances, fund local public goods, and respond to minority demands. This reduces the incentive for groups to resort to violence to gain greater self-determination. Spending autonomy—capturing expenditure federalism—displays more ambiguous effects. While it can empower local governments to meet needs more effectively, in the absence of matching revenue control, it may increase dependence on the central government or encourage local elite capture. In some cases, this mismatch exacerbates tensions and increases pressures for statehood or political autonomy.

To deepen this analysis, we incorporated spatial econometric models. The Spatial Error Model (SEM) revealed a negative spatial dependence: conflict intensity in one region is

associated with lower intensity in neighboring regions. This suggests a displacement or concentration effect, where conflict clusters in specific areas rather than spreading evenly. It highlights the need to consider regional dynamics and localized grievances when assessing federal reforms. The Spatial Autoregressive Model (SAR) adds another layer to the story. It shows that the effects of federalism are not confined to the reforming state but produce institutional signals and strategic incentives that affect neighboring states. Notably, the spatial lag of spending autonomy has a strong negative effect on secessionist and state creation conflicts. This implies that decentralization in one state may defuse similar claims in adjacent areas by demonstrating the viability of institutional accommodation short of full autonomy. Conversely, the direct effect of autonomy on creation-related conflicts is positive, suggesting that local empowerment can also embolden regional elites to seek greater political recognition.

Together, these findings tell a coherent story: tax autonomy tends to stabilize, spending autonomy requires balance, and spatial linkages multiply the effects—either reinforcing peace or redistributing conflict pressure elsewhere. The SAR model also refines our IV estimates by revealing that some conflict-reducing effects of decentralization are externalized; they lower tensions not just locally but across neighboring jurisdictions. Ignoring spatial dynamics, as in conventional regressions, would overstate local effects and understate regional interdependencies.

Our study contributes methodologically by using a standardized measure of violence based on ACLED data. By aggregating fatalities and conflict occurrences at the state level and standardizing them relative to national trends, we ensure comparability across states and time. This allows us to isolate the true impact of federalism on different types of conflicts, considering both national dynamics and regional heterogeneity.

Finally, the case of Chhattisgarh—highlighted in the residual analysis—illustrates the importance of a tailored and context-sensitive approach. Despite the presence of decentralization, persistent grievances related to land and resources continue to fuel violence. This demonstrates that decentralization alone is not enough; what matters is the type of autonomy, the way it is implemented, and the extent to which it addresses local needs and includes marginalized groups.

In short, fiscal federalism, when well-calibrated and spatially informed, can serve as an effective instrument for reducing conflict and enhancing regional stability. Policymakers should not only focus on empowering local governments but also anticipate the broader regional signals and spillovers their reforms may generate.

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# Appendices

## Appendix A

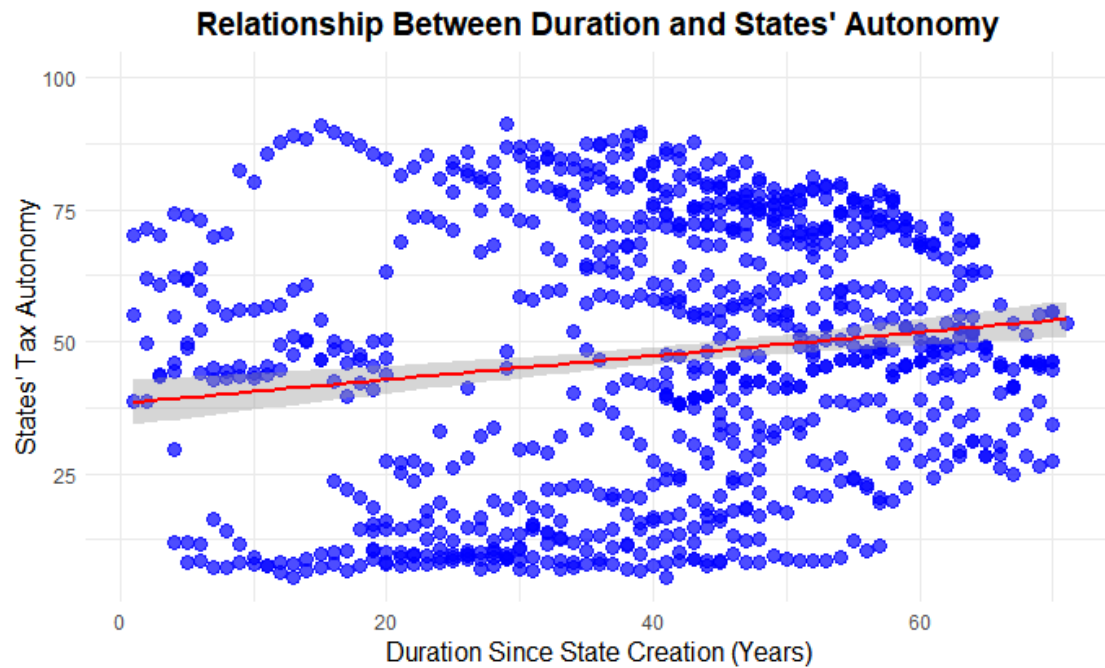


Figure .3: Correlation between tax autonomy and duration

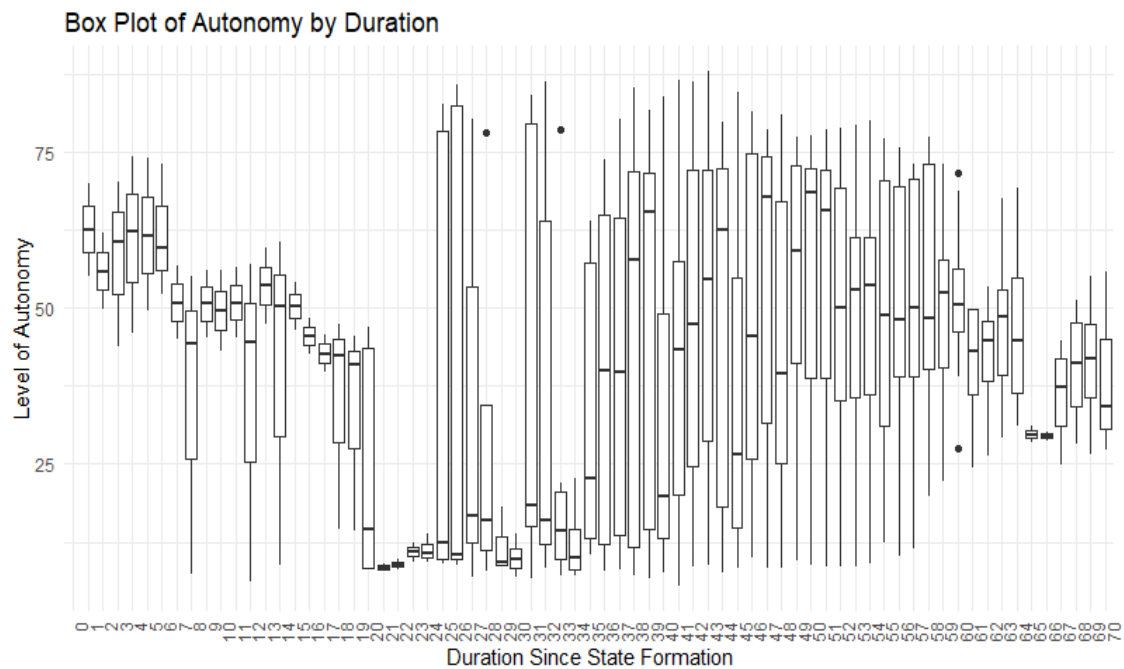


Figure .4: Relation between tax autonomy and duration

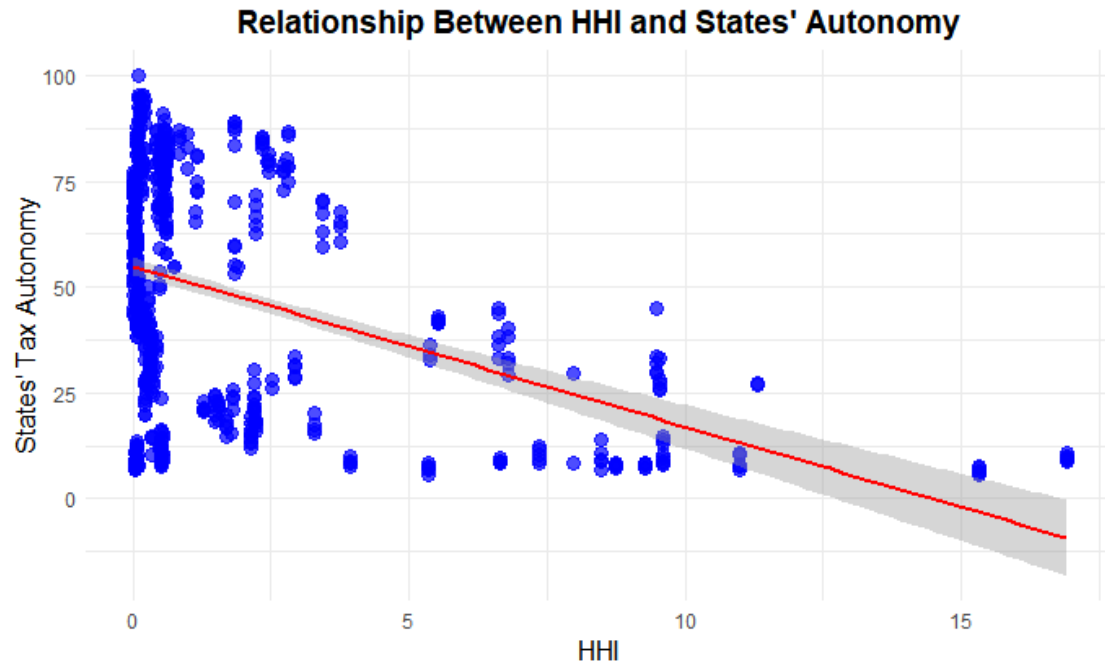


Figure .5: Relation between tax autonomy and political fragmentation

## Appendix B

### A 2SLS Results

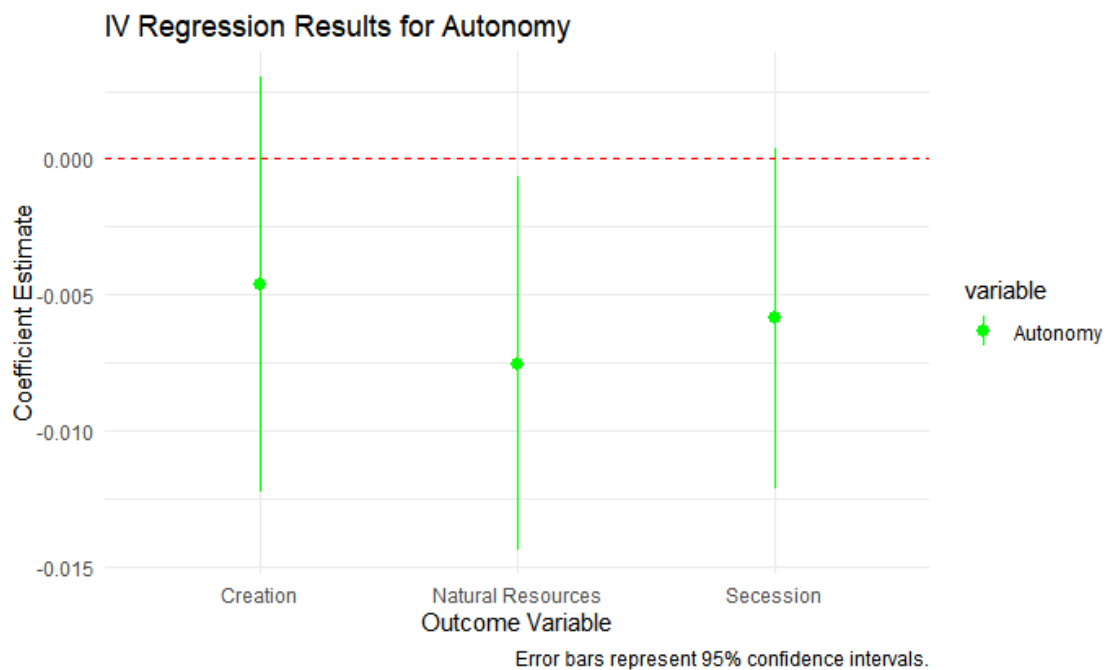


Figure A.1: Results for autonomy

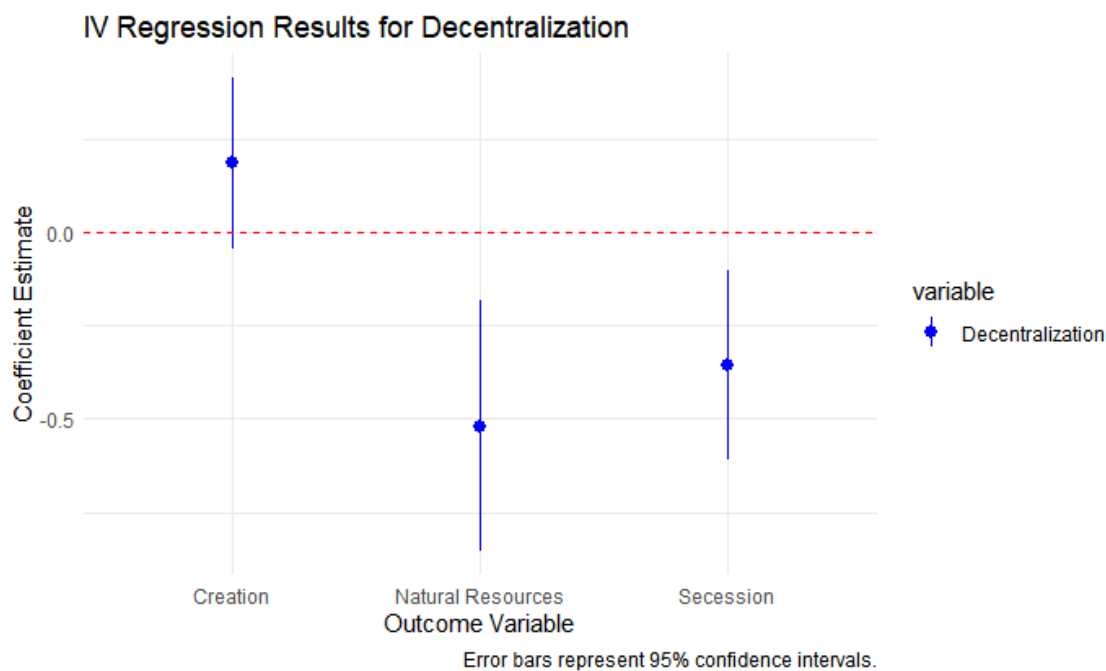


Figure A.2: Results for decentralization

## B Occurences results

Table B.1: Results for autonomy effects on occurences

	<i>Dependent variable:</i>		
	<i>secession</i>	<i>creation</i>	<i>natural</i>
	(1)	(2)	(3)
autonomy	-0.007*** (0.003)	-0.005 (0.004)	-0.010*** (0.004)
Observations	361	361	361
R <sup>2</sup>	0.154	0.273	0.069
Adjusted R <sup>2</sup>	0.137	0.259	0.051
Residual Std. Error	0.829 (df = 353)	1.121 (df = 353)	1.060 (df = 353)
<i>Note:</i>		* $p < 0.1$ ; ** $p < 0.05$ ; *** $p < 0.01$	

Table B.2: Results for autonomy effects on occurences

	<i>Dependent variable:</i>		
	<i>secession</i>	<i>creation</i>	<i>natural</i>
	(1)	(2)	(3)
decentralization	-0.416*** (0.137)	0.198* (0.119)	-0.596*** (0.189)
Observations	361	361	361
R <sup>2</sup>	-2.443	-0.218	-3.419
Adjusted R <sup>2</sup>	-2.501	-0.238	-3.494
Residual Std. Error	1.669 (df = 354)	1.448 (df = 354)	2.307 (df = 354)
<i>Note:</i>		* $p < 0.1$ ; ** $p < 0.05$ ; *** $p < 0.01$	

## Appendix B

### C Placebo Test

Table 3: Placebo test results for spending

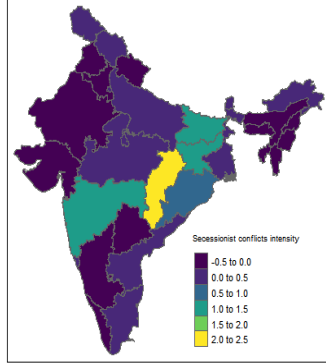
	<i>Dependent variable</i>		
	<i>random_secession</i>	<i>random_creation</i>	<i>random_natural</i>
<b>decentralization</b>	-0.051 (0.080)	-0.071 (0.075)	-0.036 (0.077)
<b>Observations</b>	508	508	508
<b>R2</b>	0.001	0.026	0.002
<b>Residual Std. Error</b>	1.753	1.640	1.683

Table 4: Placebo test results for autonomy

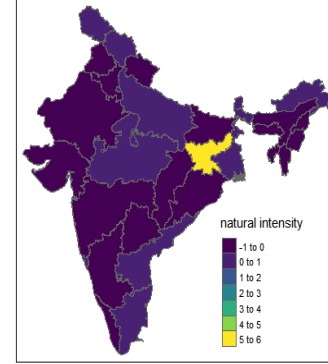
	<i>Dependent variable</i>		
	<i>random_secession</i>	<i>random_creation</i>	<i>random_natural</i>
<b>autonomy</b>	-0.003 (0.005)	-0.005 (0.004)	-0.005 (0.005)
<b>Observations</b>	508	508	508
<b>R2</b>	0.012	0.001	0.0001
<b>Residual Std. Error</b>	1.743	1.618	1.684

## Appendix C

### D Spatial analysis



(a) Secessionist conflicts intensity



(b) Natural resources conflicts intensity

Figure 1: Comparison of conflict intensities by type in 2019

	Secession	Creation	Natural
Autonomy	0.00059 (0.00087)	-0.0148*** (0.00073)	0.0053*** (0.00079)
Lambda	-1.8321* (0.7067)	-4.2717*** (0.1342)	-2.9496** (0.5302)
Observations	668	668	668
AIC	1493.9	1632.7	1564
Log Likelihood	-738.97	-808.36	-774.01

Table 5: Summary of Spatial Error Model Results with autonomy

	Secession	Creation	Natural
<b>Decentralization</b>	-0.00017 (0.00562)	-0.0198*** (0.00704)	-0.00173 (0.00645)
<b>Lambda</b>	-1.6232** (0.7306)	-0.4896** (0.6595)	0.3339 (0.3971)
<b>Log Likelihood</b>	-985.35	-1116.67	-1001.83
<b>AIC</b>	1986.7	2249.3	2019.7
<b>Observations</b>	668	668	668

Table 6: Summary of Spatial Error Model Results with spending

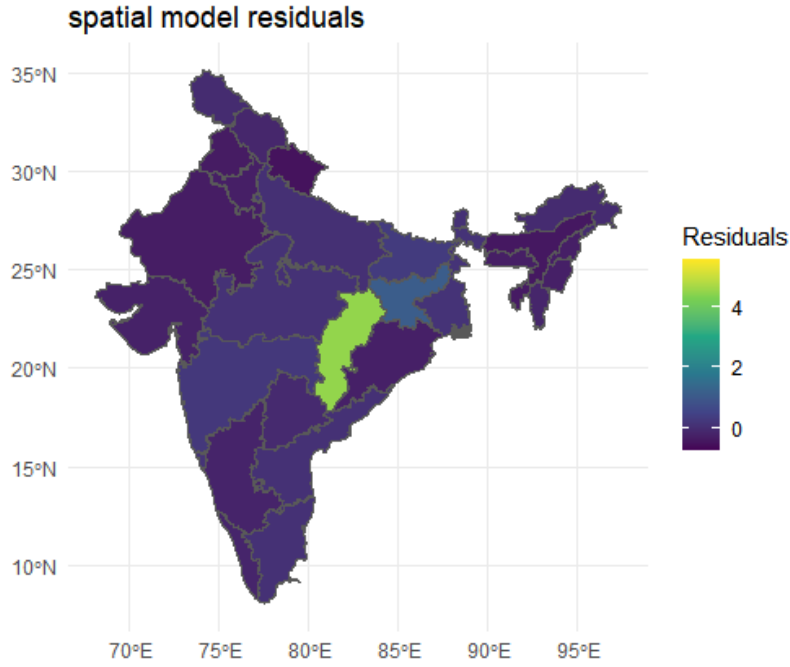


Figure 2: Residuals from SEM

	<b>Secession</b>	<b>Creation</b>	<b>Natural</b>
<b>Autonomy</b>	0.00236 (0.00166)	0.00801*** (0.00184)	0.00008 (0.00170)
<b>Autonomy (neigh.)</b>	-0.00820** (0.00407)	-0.05131*** (0.00684)	-0.00245 (0.00412)
<b>Spending Autonomy</b>	0.00840 (0.00648)	0.00057 (0.00739)	0.00021 (0.00662)
<b>Spending Aut. (neigh.)</b>	-0.09681** (0.04188)	-0.43274*** (0.07746)	-0.04394 (0.03995)
<b>Log Likelihood</b>	-978.5	-1073.7	-1000.6
<b>AIC</b>	1977.1	2167.4	2021.1
<b>Observations</b>	887	887	887

Table 7: Summary of Spatial Autoregressive Model Results