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A wall graffiti depicting Indian National Congress (INC) party leader Rahul Gandhi (L) and Prime Minister Narendra Modi of Bharatiya Janata Party (BJP) in a tug of war over India, Mumbai on April 28, 2019. Indranil MUKHERJEE / AFP

Spatial analysis of India's 2019 elections reveals the unique geography of the Hindu Right's victory

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Much ink has already been spilled on the 2019 general elections in India. The sheer scale of the triumph of the National Democratic Alliance (NDA) and the defeat of the Indian National Congress (INC) has impressed commentators as the NDA, led by the Bharatiya Janata Party (BJP), gained 353 seats among the total of 542 seats in the Lok Sabha (the Indian parliament). The NDA has secured seats in almost all Indian state and the BJP clearly ceased to be the strictly north Indian party it once was.

In this paper, we want to show how a formal spatial analysis of the election results shows the unique geographical footprint of the BJP vote and how its recent progression follows obvious spatial patterns.

The strength of the BJP in the Lok Sabha does not reflect its real vote share

India's "first-past-the-post" electoral system favours the largest parties, and as a result, the strength of the BJP and its allies in the parliament (63% of 542 seats) does not reflect its vote share (45%). This
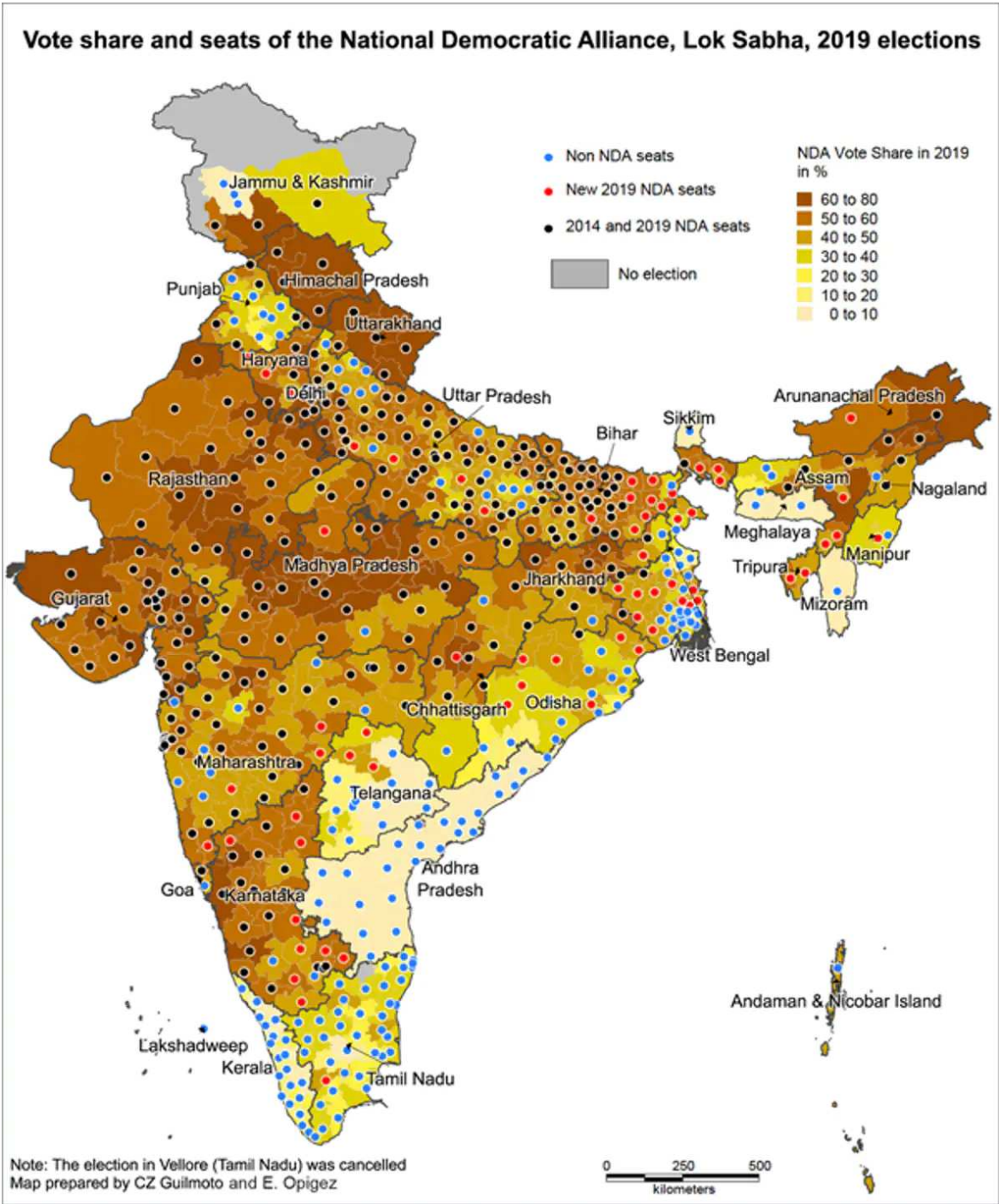
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system also grants an advantage to smaller regional parties since their electors are geographically concentrated, as illustrated in Punjab, West Bengal, or Andhra Pradesh. Keeping these features in mind, it is important to examine the actual percentage of votes won by the NDA rather than just the distribution of seats.

Our map shows the share of votes for the NDA based on the official data published by Ashoka University, with additional information on the NDA Lok Sabha seats.

Vote shares in the 2019 Indian legislative elections. Guilmoto, Opigez, Author provided

A heterogeneity of voting behaviour

The map first shows the heterogeneity of voting behaviour across India, with scores by the NDA ranging from less than 5% in the south to more than 70% in its strongholds of Western India. Yet in spite of the NDA progressing nationwide by more than 5%, the geography of its votes has only marginally changed over the last five years.

Unlike in regional elections characterised by the "anti-incumbency" phenomenon – when voters express their dissatisfaction against the incumbent party by voting against it – the NDA retained the vast majority of seats obtained in 2014.

The highest NDA scores remain concentrated in a few states of western and northern India, the coalition having in particular gained all the seats in a single regional block, stretching from Himachal Pradesh, Haryana and Uttarkhand in the northwest to Rajasthan and Gujarat.

When studied through the lens of spatial analysis, the singular geographical impact of the NDA vote appears unmistakable.

Constituencies influencing each other

The national index of spatial autocorrelation (Moran's *I*, which measures the strength of similarities between adjacent observations), has reached 0.73: this means that the correlation between NDA votes in one constituency and those in the neighbouring constituencies is as high as 73%.

This is a very strong level of spatial dependence compared to other social, religious or economic indicators, which confirms the pronounced geographic patterning of the NDA votes in 2019.

This stable and regular distribution of voting behaviour contradicts the proverbial volatility of India's regional politics last illustrated in 2018, when the BJP lost the local elections in Chhattisgarh, Madhya Pradesh and Rajasthan. This geographic structure also demonstrates that these spatial patterns owe less to the vagaries of local political coalitions and candidates than suggested by media reports.

The front pages of Indian newspapers with news of Indian prime minister Nadendra Modi's general-election victory for the Bharatiya Janata Party (BJP) are seen at a newsstand in Chennai on May 24, 2019. Arun Sankar/AFP

constituency

In addition, the NDA vote has spread over the years to new regions of India, loosening up the geographical concentration around its historical bastions. Votes for the coalition are now more evenly distributed from one constituency to the next, mirroring the gradual regional spread of the BJP's influence toward the east and the south.

The index of spatial autocorrelation has in fact increased since 2014 (I=0.69) and previous research shows that it has been on the increase since 1999 (I=0.43).

Discontinuity

Yet if you look closer, you can still distinguish areas of distinct spatial discontinuity, which are contiguous constituencies where the NDA strength drops significantly.

The most pronounced discontinuity line corresponds to southern and eastern Karnataka, a state where the NDA recorded an almost flawless victory: its vote share abruptly falls from around 50% to less than 20% when one crosses the boundaries to Kerala, Andhra Pradesh and Telangana.
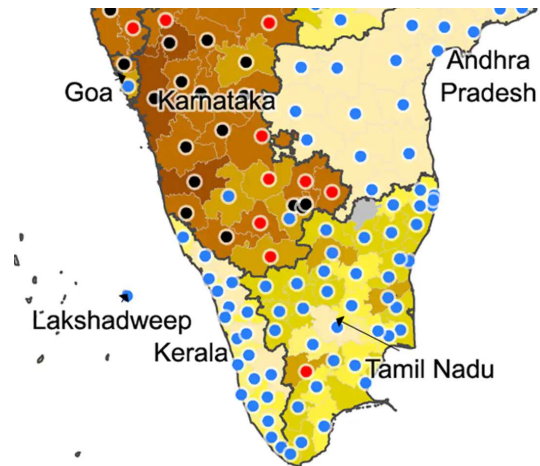
BJP president Amit Shah in May 2018 after his party won most of the seats in Karnataka, a state of 60 million people, which includes the wealthy city of Bangalore and was once led by the opposition. Chandan Khanna/AFP

The NDA share declines slightly less dramatically in Tamil Nadu, thanks to its local alliance with the local AIADMK. Similar steep declines in voting shares are also on display in the northeast (Meghalaya, Mizoram and Sikkim) as well in the Muslim-dominated constituencies of Kashmir. The NDA percentage also drops by half when one enters Andhra Pradesh from Odisha or Punjab from neighbouring Rajasthan and Haryana.

These cases of discontinuity contradict the otherwise high level of spatial autocorrelation highlighted earlier and points to the presence of strong regional parties that rejected any alliance with the BJP or to the presence of strong social heterogeneity along religious or ethnic lines.

More broadly, this corresponds to vigorous regional political traditions away from the Hindi belt, the states where Hindi is used as *lingua franca*. In such areas, local parties, including the Congress and Communist parties, fight against each other for local dominance and the BJP's nationalist and conservative agenda appears somewhat irrelevant to Hindu voters.
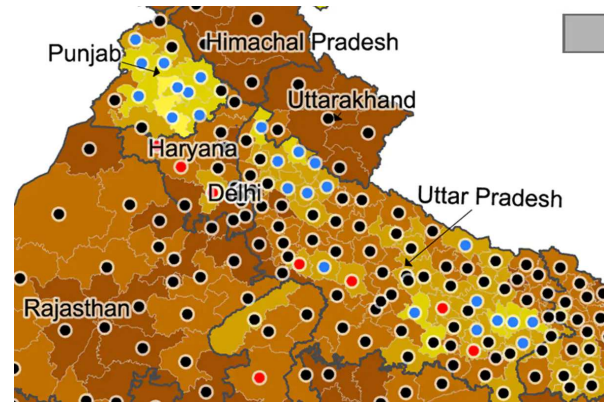

Discontinuity in the south. C. Guilmoto, E. Opigez, Author provided

Several islands of organised resistance

Apart from these clear-cut regional break lines acting as barriers to the progression of the BJP-led alliance, the map also points to several islands of organised resistance to the NDA. Three small such clusters of non-NDA MPs emerge in BJP-dominated states: two in northwest and eastern Uttar Pradesh and one in western Maharashtra.

Note the near absence of isolated non-NDA constituency in northern India. The resistance to the pressure of the NDA's campaigning and ideology is organised around local bastions in which opposition parties have been able to preserve a dense network of politicians and activists. The combined strength of mobilization in adjacent localities and consistencies appears crucial for political survival in front of the BJP juggernaut.

Do these spatial patterns correspond to unchanging features of Indian politics? The relatively stable contours of the BJP votes over several elections and the permanence of its strongholds would suggest so.

Pockets of resistance in the north. C. Guilmoto, E. Opigez, Author provided

Securing peripheral regions to build a new political geography

Our mapping also points to the interesting geography of the NDA's recent progression since 2014. New seats taken by the NDA coalition in 2019 are not randomly distributed on the map and illustrate its spatial diffusion away from the BJP core areas.

For instance, the NDA had gained its new sets in peripheral Karnataka, with two new seats in the northeast and five in its southeast tip. Similarly, the seven new seats grabbed in Bihar by the NDA in 2019 are all located in the state's most eastern tracts next to West Bengal while the five seats gained in the northeast form a contiguous block from Manipur to southern Tripura.

An Indian tribal casts his vote for the first phase of India's general election in Manipur on April 11, 2019. Most seats in the north-eastern states of India have been won by the BJP-NDA alliance. Deepak Shijagurumayum/AFP

The BJP's foray into West Bengal (eight seats gained) follows clear spatial patterns from adjacent states to the south of the state, with the Kolkata metropolitan area now encircled. The NDA has also gained ground in Telangana (three new seats) from its porous northwest border with Madhya Pradesh and in western Odisha (four new seats) from nearby Jharkhand. It notably established for the first time a bridgehead by reaching the Bay of Bengal in northern Odisha (two new seats).
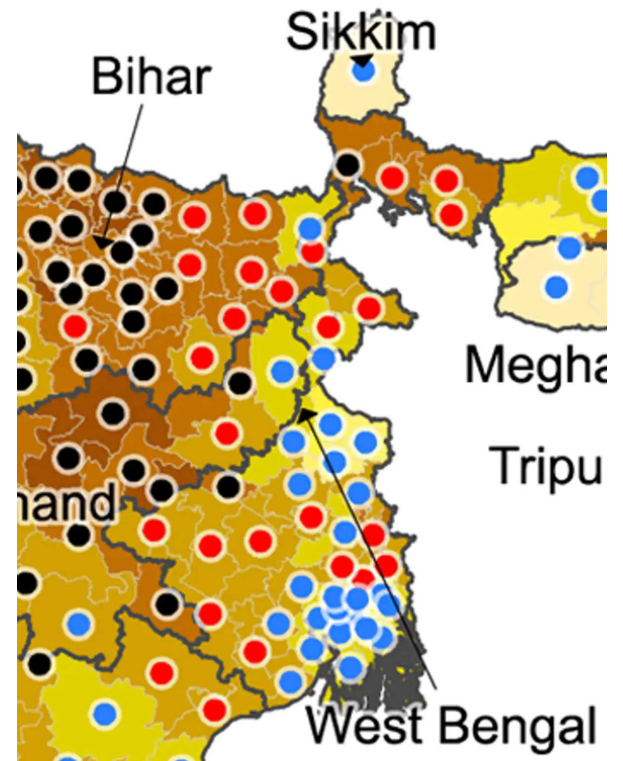
Grassroots organisations at the forefront

With the exception of south India's current sanitary cordon, this geographical propagation is a unique feature of the BJP's progress over the last three decades.

It is very different from the segmented regional patterns of the Congress vote, which are scattered over India, with strongholds in the north, the south and east. It also underscores the role of local processes of political conversion through grassroots organisations, in addition to the national media blitz and regional coalition building.

As to the tight barriers to BJP progression in southern India, there is no reason to believe that they will withstand indefinitely the pressure from India's hegemonic party.

Not only could the BJP join forces with local partners – as it did in Andhra Pradesh in 2014 and Tamil Nadu in 2019 – but also the spatial divides noticeable earlier along the West Bengal or the Telangana borders seem to have all but collapsed during the latest election.

It is time to recognise the map of the NDA's electoral success for what it is: the signature of a successful diffusion drive of a consistent political ideology across the country that might, in the absence of organised resistance, incorporate in the near future more territories of south and east India. Without a consistent spatial perspective, we risk losing sight of its actual momentum.

Progression in the East. C. Guilmoto, E. Opigez, Author provided

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