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Vertical consolidation and voter turnout: evidence from England

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ABSTRACT

Structural reforms to local government have complex effects on electoral participation, especially when they involve the abolition of multiple tiers of government through the vertical consolidation of small authorities providing neighbourhood services and large authorities providing strategic services. Using a synthetic difference-in-differences approach, this paper analyses voter turnout across 13 election cycles (1973–2021) in five two-tier counties in England that were consolidated into single tier unitary authorities in 2009. The results suggest voter turnout increased in consolidated counties, a finding that could be explained by the smaller number of candidates per seat and weaker effective party competition in the initial period after consolidation. The implications of these findings are discussed.

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Introduction

The size and structure of local government systems have important implications for local democracy (Dahl and Tufte 1973; Newton 1982). In particular, a patchwork of small local governments closely connected to people's lives is often assumed to offer empowering avenues for civic engagement and participatory governance (Denters et al. 2014). Much of the empirical literature dealing with this issue points towards higher levels of electoral turnout within smaller jurisdictions (McDonnell 2020) and fragmented territorial systems (Cerqua and Di Matteo 2025; Nishida, Hott, and Sakurai 2026). This raises important questions about the wider benefits of amalgamation reforms that increase the size of local governments

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and reduce fragmentation in pursuit of efficiency gains and more strategic capacity for public service delivery (Swianiewicz et al. 2022; A. Tavares 2024). Such questions are especially acute for reforms involving the merger of several lower-tier units with an upper-tier unit, since they entail the abolition of a multi-tier system and its replacement with a single point of democratic accountability at a broad spatial scale (Carr and Feiock 2004; Sandford 2025).

Local government mergers are often assumed to weaken electoral participation because of a disconnect between larger units of government and the citizens that they serve (McDonnell 2020). Put simply, people are more interested in and knowledgeable about the 'smaller issues' in their neighbourhood than those affecting broader territories (Kelleher and Lowery 2009, 66). However, some theorists suggest more intense political competition in larger governments increases voter awareness and mobilisation (Denters et al. 2014). After all, national election turnout is typically bigger than local election turnout (Gendzwill 2021; Morlan 1984) and larger jurisdictions attract better political leaders (Kelleher and Lowery 2009). These mobilisation effects may be especially important when multiple tiers of local government are consolidated into a single tier and the allocation of public service responsibilities is more concentrated (Dafflon 1992). Nevertheless, despite a venerable tradition of research on local government size and turnout (e.g., Fletcher 1969), systematic analysis of whether vertical consolidation reforms affect electoral participation is lacking (c.f. Jung 2025).

Research examining the impact of local government structural reforms on voter turnout mainly focuses on *horizontal* amalgamations of governments with similar responsibilities (e.g., Allers et al. 2021; Bhatti and Hansen 2019; Heinisch et al. 2018; Koch and Rochat 2017; Lapointe, Saarimaa, and Tukiainen 2018; Rodrigues and Tavares 2020). While these studies are valuable, little is known about the impact of *vertical* consolidations that merge several lower and upper-tier units into a single organisation exercising the responsibilities of both tiers. Drawing on local electoral participation theories, this paper presents a quasi-experimental analysis of the effects of a vertical consolidation reform on voter turnout in rural England.

Policy-makers typically argue that vertical consolidation improves local public services by unlocking scale and scope economies unobtainable through horizontal amalgamations alone (Leland and Thurmaier 2005). There may also be good political reasons for consolidating multi-tier local government structures. In multi-tier systems citizens may not understand the allocation of responsibilities between different tiers and feel less inclined to vote because they lack knowledge about the issues at stake in different local elections (Dafflon 1992). Within a consolidated system, lines of political accountability are clearer and issues are bigger, making engaging with elections easier.

Governments in many countries have enacted or encouraged horizontal amalgamations of local government, but vertical consolidations are less common (Swianiewicz et al. 2022; A. Tavares 2024). In the UK, nearly all recent structural reforms to local government have involved the consolidation of lower-tier district councils with upper-tier county councils into a smaller number of single-tier governments responsible for neighbourhood and strategic services (Sandford 2025). Consolidation has thus meant that district and county councils are abolished as separate entities, with new ‘unitary’ authorities being established. Evidence on how voter turnout is affected by the consolidation of county councils and district councils can therefore provide valuable new knowledge about the political effects of structural reforms.

To understand whether vertical consolidation influences local voter turnout, this paper presents an analysis of turnout in five two-tier counties in England that were consolidated into single-tier unitary authorities in 2009. To evaluate these consolidations, a synthetic control approach is used because it is well suited to analysing ‘idiosyncratic historical events’ affecting a small number of units (Hollingsworth and Wing 2020). Specifically, a quasi-experimental synthetic difference-in-differences (SDID) method is applied across 13 election cycles (1973–2021). SDID analyses match the pre-treatment time trends of treated units with the trends of a comparator group of untreated units (the ‘donor pool’) to construct a synthetic version of the treated unit. This synthetic control is then used to compare post-treatment outcomes for the treated units and their synthetic counterpart (Arkhangelsky et al. 2021). The SDID analysis presented here compares voter turnout in the consolidated counties with synthetic versions of these counties constructed using weighted data from non-consolidated counties. Potential mechanisms explaining the impact of the consolidations are explored by analysing the number of candidates per seat and the degree of effective party competition.

The SDID estimates suggest voter turnout increased following consolidation, which may potentially have influenced by a smaller number of candidates contesting each seat and weaker effective party competition in the consolidated counties. In the next section of the paper, the literature on the electoral effects of local government structural reforms is used to develop arguments about vertical consolidation and voter turnout. In the third section, the study context is described, before the data and method are explained in the fourth section. Then, the SDID estimates are reported, and, in the final section, the implications of the findings are discussed.

Vertical consolidation and electoral turnout

The sustainability and vitality of local democracy has become a major issue at a time of increasing political mistrust and disengagement (Gendźwiłł, Kjaer,

and Steyvers 2022; Kouba, Novák, and Strnad 2021). Within this context, the role that wider structural reforms, such as devolution and decentralisation, play in bolstering local democracy has come under scrutiny (Blunkett, Flinders, and Prosser 2016). In particular, as many central governments seek to bolster the financial resilience of local government through amalgamations and consolidations, broader questions about the impact on local elections have come to the fore.

In the UK, vertical consolidation of two-tier areas into single-tier local governments began in the 1990s, when unitary local authorities were established in small English cities (and across all of Scotland and Wales) (Sandford 2025). ‘Unitarization’ of the two-tier system in rural areas has since continued piecemeal across England, largely guided by the aim to ‘achieve efficiencies, improve capacity and withstand financial shocks’ (Ministry of Housing, Communities and Local Government 2024, 100). At the same time, UK government stated that a single tier of local government provides local people with ‘a clearer picture of who is accountable for service delivery and local decisions, requiring fewer councillors and local elections’ (102). However, the loss of thousands of local councillors and the postponement of elections in reorganising authorities have spurred concerns about the prospects for local democracy in the wake of unitarization (Travers 2026).

To better understand the potential implications of vertical consolidation for voter turnout, this paper builds on insights from the empirical literature on municipal amalgamations. Broadly speaking, that literature identifies three types of effects that structural reforms can have on electoral participation: i) voting effects; ii) mobilisation effects; and, iii) place-based effects. It is conceivable that negative and positive relationships between vertical consolidation and turnout are encompassed within the spectrum of these effects.

Voting effects

Rational theories of voting suggest there is more incentive to participate in elections in which there are fewer voters, since each vote cast will have more impact on the outcome of the election (Geys 2006; Herrmann, Jong-A-Pin, and Schoonbeek 2019). At the local level, voters in smaller jurisdictions also have more opportunity to influence the outcome of an election because they likely have more frequent contact with their elected officials of whom there are more per elector (Van Houwelingen 2017). If the size of the local electorate is made larger through amalgamations, citizens will perceive their votes matter less and, correspondingly, feel less inclined to participate in local elections (Allers et al. 2021). There will also be fewer politicians with whom they can interact and their sense of political efficacy may decline (Lassen and Serritzlew 2011), weakening their motivation to vote. Although vertical consolidation does not enlarge the size of the local electorate, it does mean that

opportunities to vote are confined to local elections in which there are many more voters and that could be perceived to be less susceptible to the influence of a single voter's choice, thereby leading to lower turnout.

In contrast with the negative voting effects some rational actor models associate with larger electorates, second order election theory posits that voters are more motivated to participate in elections for larger bodies because the outcome of such elections is more likely to have momentous implications for their lives (Reif and Schmitt 1980). From this perspective, horizontal amalgamations are high-stakes events with the policies being implemented by a larger local government being backed by more resources and strategic capacity for improving social and economic outcomes (Allers et al. 2021; Swianiewicz 2010). More significantly still, vertical consolidations entail an expansion of the powers and responsibilities of the new unit of government may be regarded as especially meaningful electoral events (Bolgherini and Paparo 2023), particularly if there are fewer local elections (Rallings and Thrasher 2005). All of this suggests consolidation could lead to an increase in voter turnout.

Mobilisation effects

In addition to the perceived importance of elections in larger local governments, the literature suggests political competition is more intense in big jurisdictions leading to higher turnout (Kouba and Dosek 2022). Preference heterogeneity is greater in larger communities, with a wider diversity of political beliefs creating more contestation between different social groups and therefore stronger incentives for citizens to vote (Dahl 1971). At the same time, the prestige associated with large jurisdictions attracts candidates for office who are more committed to mobilising voters (Denters et al. 2014). Similarly, political parties, interest groups and the media are better organised in large communities, facilitating voter mobilisation, especially as incumbents are less able to build clientelist networks where democratic capacity is stronger (Gerring et al. 2015; Newton 1982). Importantly, the information costs associated with understanding local issues are lower where political competition is more vigorous (Heinisch et al. 2018). In addition, by establishing a single organisation accountable for all key local services, vertical consolidation can facilitate the clarity of responsibility that research suggests enhances electoral responsiveness (Tillman 2008) and is associated with higher voter turnout (Park, Frantzeskakis, and Shin 2019). The perceived importance of the new bodies, the clearer lines of electoral accountability in a single-tier system and less frequent opportunities to vote could therefore generate heightened interest in elections among voters and political parties alike.

Despite the above, there are some reasons for thinking increased size could hamper efforts to increase electoral participation, at least in the short term. In particular, as preference heterogeneity grows, increasing demands are placed on party organisation to develop and sell policies well-matched to the median voter, which may make it more difficult to mount effective campaigns (Allers et al. 2021). The established pattern of median voting in some areas is potentially disrupted by horizontal amalgamations that establish larger, more dominant social groups and marginalise peripheral subordinate social groups with the incentive to vote becoming weaker among both groups (Bönisch, Geys, and Michelsen 2019). Vertical consolidations seem less susceptible to these negative mobilisation effects on turnout since jurisdictional boundaries are less likely to be enlarged. Nevertheless, expansion of the powers and responsibilities of consolidated governments may require political parties to adopt new campaign strategies that take time to develop and pitch to activists and constituents. In particular, parties will need to simultaneously campaign on both the neighbourhood services, such as waste management, previously provided by lower tier units and the strategic services, such as schools, previously provided by the upper-tier unit of government. This 'issue expansion' poses challenges for the clarity of political messaging by parties and requires voters to devote additional attention to that messaging, which could lead to disengagement and lower turnout.

Place-based effects

Beyond the voting and mobilisation effects on voter turnout associated with structural reforms, lie effects relating to the place-based identity and values held by local citizens. The size and democracy literature has long maintained smaller communities have stronger social bonds, higher levels of trust and a deeper attachment to place than larger communities (Dahl and Tufte 1973). The strong place-based identity within smaller communities is augmented by closer connections with local politicians, generating norms of social responsibility that underpin voter turnout (Funk 2010). In larger, more anonymous communities, democratic and participatory values are threatened by the greater distance between the neighbourhoods that compose the community and between voters and politicians (Lassen and Serritzlew 2011). Horizontal amalgamations seem likely to reduce voter turnout because of these place-based effects, especially as communities lose the symbolic institutional representation of their political identity when municipalities are abolished (Denters et al. 2014). Similarly, vertical consolidation may lead to negative place-based effects on turnout as it involves the abolition of lower-tier governments that are closer to neighbourhoods.

Although structural reforms can instigate new forms of intra-local conflict that stymie attachment to new units of government (Baker and Gwinn 2026),

such disaffection may eventually be overcome as residents develop a ‘thin’ regional identity based on the new spatial structure (Terlouw 2016). This process seems likely to take a long time after horizontal amalgamations, particularly if they involve large numbers of municipalities. However, the process of identification with the new structure could occur more rapidly in the case of vertical consolidations due to the pre-existence of the higher level of government which now forms the basis for citizen’s local political identity. Such identification could even result in increased turnout if a consolidated area maps exactly onto the previous boundaries of the upper level of a two-tier system, as is the case for the consolidations studied here. Overall, then, theory suggests vertical consolidation may have potentially contradictory effects on voter turnout, but what does the existing empirical evidence tell us.

Empirical evidence on vertical consolidation and political outcomes

Despite longstanding controversy about vertical consolidations (Carr and Feiock 2004; Chisholm 2000), surprisingly little research has systematically evaluated their impact on voter turnout. Most empirical studies of structural reforms and turnout address horizontal amalgamations between local governments with similar responsibilities (see Tavares 2024), often employing quasi-experimental techniques (Gendźwiłł, Kjaer, and Steyvers 2022). This research mostly identifies a negative relationship between amalgamation and turnout. However, there is comparatively little robust evidence upon which to gauge whether the theoretical arguments about structural reform and voter turnout apply to vertical consolidations.

There is a small stream of empirical research analysing the effects of vertical consolidation on financial outcomes (e.g., Andrews 2013; Zheng and Sun 2026), but few studies systematically investigating its relationship with political outcomes. Seamon and Feiock’s (1995) time-series analysis of city-county consolidations in the US suggests voter turnout is lower in consolidated areas. Likewise, Jung’s (2025) panel regression analysis of city-council consolidation in South Korea indicates voter turnout is lower in consolidated areas than in non-consolidated areas, especially in rural areas. Beyond these two analyses, there are some case-based accounts of the political effects of city-council consolidations in the US, which paint a variegated picture of changes in electoral participation. For example, Savitch and Vogel’s (2004) case study of consolidation in Louisville, Kentucky highlights that voter turnout and the number of candidates per seat fell after consolidation. By contrast, Hagan’s (2009) case-based research presents mixed evidence of the effects of four separate US city-county consolidation on black voter turnout.

The SDID analysis of vertical consolidations presented here adds valuable new evidence on the impact of structural reforms on local election turnout by: i) systematically analysing the effects of vertical consolidation; ii) employing a quasi-experimental technique; and, iii) investigating potential mechanisms that explain changes in voter turnout.

Background

Local governments in England are the largest within Europe and have grown bigger since the 1970s, mainly because of central government's desire to make efficiency gains (John 2010). The Local Government Act of 1972 replaced almost 1400 local government units across England with 410 new authorities. In rural areas, a two-tier structure was established comprising 39 county councils responsible for strategic public services, such as education and social care, and 296 district councils sitting beneath the counties responsible for neighbourhood services, such as housing and waste collection (Andrews 2013). These counties and districts were formally established after the first elections to the new councils in 1973.

Although the reforms in the 1970s acknowledged the value of smaller governments, by the 1980s central government began to favour a single tier system to streamline decision making, improve service co-ordination and clarify lines of accountability (Chisholm 2000). As a result, unitary authorities replaced the county and district councils in some large towns and small cities in the 1990s. Since then, the unitary, single-tier full provision model has become UK government's preferred option for rural England (Sandford 2025); a position formally recognised in the Local Government and Public Involvement in Health Act 2007, which permitted (and invited) councils in two-tier areas to submit proposals for consolidation.

Consolidation proposals involve the establishment of a single tier of local government in a single county area (a whole-county unitary), a single tier of local government made up of multiple districts within a county area or multiple single tiers of local government composed of parts of a county and one or more districts. This process entails the abolition of all the lower-tier district councils and the upper-tier county council within a county area and the establishment of one or more new unitary authorities.¹ To date, the largest set of consolidation proposals to be implemented occurred in 2009,² with full consolidation into whole-county unitaries taking place in five county areas (Cornwall, Durham, Northumberland, Shropshire and Wiltshire), and two new unitary split-county consolidations in Bedfordshire and Cheshire. These consolidations in 2009 are the focus of this study.³

Since there is no pre-reform history of elections for the areas served by the entirely new split-county entities, the focus in this analysis is on electoral outcomes for the whole-county unitaries, which retained the same electoral

cycle as their predecessor county councils. This permits the construction of a balanced panel for SDID analyses. No specific incentives were offered to encourage these consolidations, though UK central government made it clear they preferred all councils in rural areas in England to switch to a consolidated, unitary structure at some point (Chisholm and Leach 2011). The consolidations were timed to permit the first elections to take place at the same time as the county council elections, thereby requiring no special provisions regarding the electoral cycle.

Methodology and data

A SDID approach is applied to estimate the average effects of consolidation on voter turnout in Cornwall, Durham, Northumberland, Shropshire, and Wiltshire. The SDID method blends the Synthetic Control Method (SCM) with a conventional DID approach (Arkhangelsky et al. 2021). Like the SCM, the SDID estimator creates a synthetic control unit from untreated units with which to compare outcomes with the treated unit(s), but does so by matching the pre-treatment time trends of treated units and selected untreated units (the ‘donor pool’), rather than by matching the pre-treatment levels of treated and selected untreated units as in the SCM. This makes it possible to dynamically adjust the data to meet the parallel trends assumption at the heart of DiD analyses i.e., that the identification of a treatment effects requires that outcomes for the treated and untreated units follow a similar trajectory prior to treatment.

To adjust the data, the SDID estimator first constructs a weighted combination of selected untreated units that matches the pre-treatment outcome trends of the treated unit(s) to create a synthetic control.⁴ It then estimates the difference in outcomes between the treated unit(s) and the synthetic control before and after treatment (see Arkhangelsky et al. 2021). A SDID approach is especially appropriate for analysing the 2009 local government consolidations in England because there are comparatively few of them. In such a situation, a standard DID approach comparing average outcomes for treated and untreated units without weighting the pre-treatment data to establish parallel trends, could be susceptible to over-fitting biases (Bertrand, Duflo, and Mullainathan 2004). Furthermore, because the consolidations all took place in the same year, there is no need to apply a DID approach that captures staggered reform implementation, though this could be done using SDID (Clarke et al. 2023).

Units of analysis

The units of analysis are the rural county areas in England served by either county and district councils or unitary authorities during the period 1973–

2021.⁵ These local governments are elected bodies employing professional career staff that receive most of their income from UK central government. County councils deliver education, social care, land-use planning, and waste disposal services, while below them several smaller district councils provide housing, waste collection, leisure and culture, and welfare benefits services. Unitary authorities are responsible for all the services provided either by county or district councils. Prior to the consolidations in 2009, there were 34 county councils and 238 district councils.

To construct the synthetic controls to estimate treatment effects, the donor pool comprised all 21 counties that did not experience consolidation during the period 1973–2021.⁶ The analyses were not extended to the 2025 county-level elections due to the small number of remaining unconsolidated counties with which to construct the donor pool at that time (see footnote 1).

Outcomes

Electoral outcome data were collected and analysed for county councils and the ‘new’ whole-county unitaries created in 2009 for 13 election cycles (1973–2021). Elections to county-level governments take place on the same four-year cycle⁷ and involve all the council seats being up for election, thereby facilitating an identification strategy based on a balanced panel of data comparing outcomes in a single treated group with outcomes in a single (synthetic) control group. The clarity of the four-yearly election cycle and a single election for consolidated county areas when compared with the other cycles applied by local governments in rural England (see footnote 3) is assumed to result in increased electoral turnout, as the information costs associated with electoral participation are likely to be significantly lower.

Turnout in county council and whole-county unitary authority elections is measured as the percentage of eligible voters in each jurisdiction who voted. To explore potential mechanisms that may explain changes in turnout after consolidation, two further outcome measures are analysed.

First, the number of candidates per seat is investigated. As per the positive voter effects outlined above, the greater importance attached to consolidated authorities could attract more candidates, which may mean the heterogeneous preferences of local voters are better represented, leading to higher turnout (Geys 2006). Alternatively, as suggested by positive mobilisation arguments, consolidation may increase the costs of running an effective political campaign, which could lead to fewer, better-quality candidates competing for voters’ attention, decreasing the information costs associated with voting and prompting higher turnout (Stockemer 2017). For similar reasons, there may only be a small number of candidates with sufficient resources and public profile capable of appealing to the thin regional identity identified in positive place-based arguments that could raise turnout.

Second, the degree of effective party competition in each election is captured by measuring the percentage of the seats in each area contested by the three major political parties in England during the study period: the right-wing Conservative Party, the centrist Liberal Democrats and the left-wing Labour Party. Following the positive voter, mobilisation and placed-based effects identified earlier, the increased political salience attributable to consolidated counties may mean national political parties dispatch additional resources and better, more recognisable people to campaign in elections to those authorities. This may increase turnout by ensuring that voters most established preferences are well-represented (Blais 2006). However, it is also possible consolidation entrenches patterns of single party dominance in higher-order elections and therefore negative mobilisation effects weaken effective party competition as parties divert resources to more winnable elections. This, in turn, could reduce preference satisfaction and lower turnout (Grofman and Selb 2011).

Results

Table 1 reports summary statistics for voter turnout, candidates per seat and effective political competition for the consolidated and non-consolidated counties before and after the consolidations occurred in 2009. Voter turnout was, on average, lower in the consolidated counties in the nine elections prior to consolidation than in non-consolidated counties. Although turnout fell in both groups of counties in the post-consolidation period, it fell less in consolidated counties, which had slightly higher turnout than non-consolidated counties. The average number of candidates per seat was lower in consolidated than non-consolidated counties between 1973 and 2005 – a pattern repeated between 2009 and 2021, even though the candidates per seat grew in both groups of counties. Effective party competition was much lower in the pre-consolidation period in consolidated than non-consolidated counties and remained lower in the post-consolidation period.

The SDID analyses presented in Figure 1 below all use the same common seed (4927) and number of randomised bootstrap iterations (200). The bootstrapping procedure in SDID calculates standard errors to compute

Table 1. Summary statistics: before (1973–2005) and after (2009–2021) consolidations.

	Consolidated areas		Non-consolidated areas	
	Before	After	Before	After
% Voter turnout	44.02	37.22	48.25	35.09
Number of candidates per seat	2.54	3.45	2.97	4.40
% Seats contested by three main political parties	36.96	53.17	66.09	76.32



Figure 1. Electoral outcomes: consolidated vs non-consolidated counties. Note: The horizontal solid lines show outcomes for the consolidated areas. The horizontal dotted lines show the outcomes for the synthetic controls. The first vertical line shows the last election year before consolidation. The second vertical line shows the first year of elections after consolidation. Time (Lambda) weights (i.e., year fixed effects from pre-period weighting) are represented by the grey areas.

Table 2. Pooled post-period SDID coefficient estimates (2009–2021).

	Consolidated	Lower CI	Upper CI
% Voter turnout	4.528 (.684)	3.187	5.868
Number of candidates per seat	–.525 (.125)	–.770	–.280
% Seats contested by three main political parties	–2.020 (4.346)	–10.539	6.499

Note: Standard errors in brackets computed using 200 permutation-based iterations.

confidence intervals around the parameter estimates by repeatedly sampling the donor pool with replacement. This, in effect, creates a placebo value of the treatment effect (Arkhangelsky et al. 2021). Pooled post-period coefficient estimates are reported in Table 2, and year-on-year post-treatment effects in Figure 2.

The SDID plots indicate that the pre-treatment parallel trends assumption is plausible for each outcome, with the pre-treatment trajectories of the treated units and the synthetic controls strongly aligned for *voter turnout* and to a lesser extent *candidates per seat*. For *effective party competition*, the overall pre-treatment trends are broadly similar for the treated and synthetic series, but there are discrepancies for some years, so the results for this outcome should be interpreted with more caution.

In terms of the impact of consolidation, the SDID plots suggest voter turnout increased in consolidated counties right after they were reorganised, but that candidates per seat and effective party competition decreased in consolidated counties, though the latter subsequently increased in the fourth election after consolidation. Substantively speaking, voter turnout appears to have increased by about three percent in the fourth election after consolidation. There seems to be around one candidate per seat fewer, with approximately three candidates per seat in the consolidated counties, but about four candidates per seat in the synthetic control. Effective party competition in consolidated counties dropped by twenty percent by the second election after consolidation, but climbed by about thirty percent in 2021, when party competition in the synthetic control drops by ten percent.

To explore these effects in more depth, Table 2 presents the pooled post-period SDID coefficient estimates, which represent the Average Treatment effects on the Treated (ATTs) for the three outcomes during the post-treatment period i.e., 2009–21. The ATTs for voter turnout and candidates per seat suggest a statistically significant relationship between consolidation and these outcomes, with the lower and upper confidence intervals having the same signs for the separate estimations. However, ATT for effective party competition is not statistically significant, with the lower and upper confidence intervals falling either side of zero. It is more instructive to analyse these treatment effects year-on-year, especially for effective party

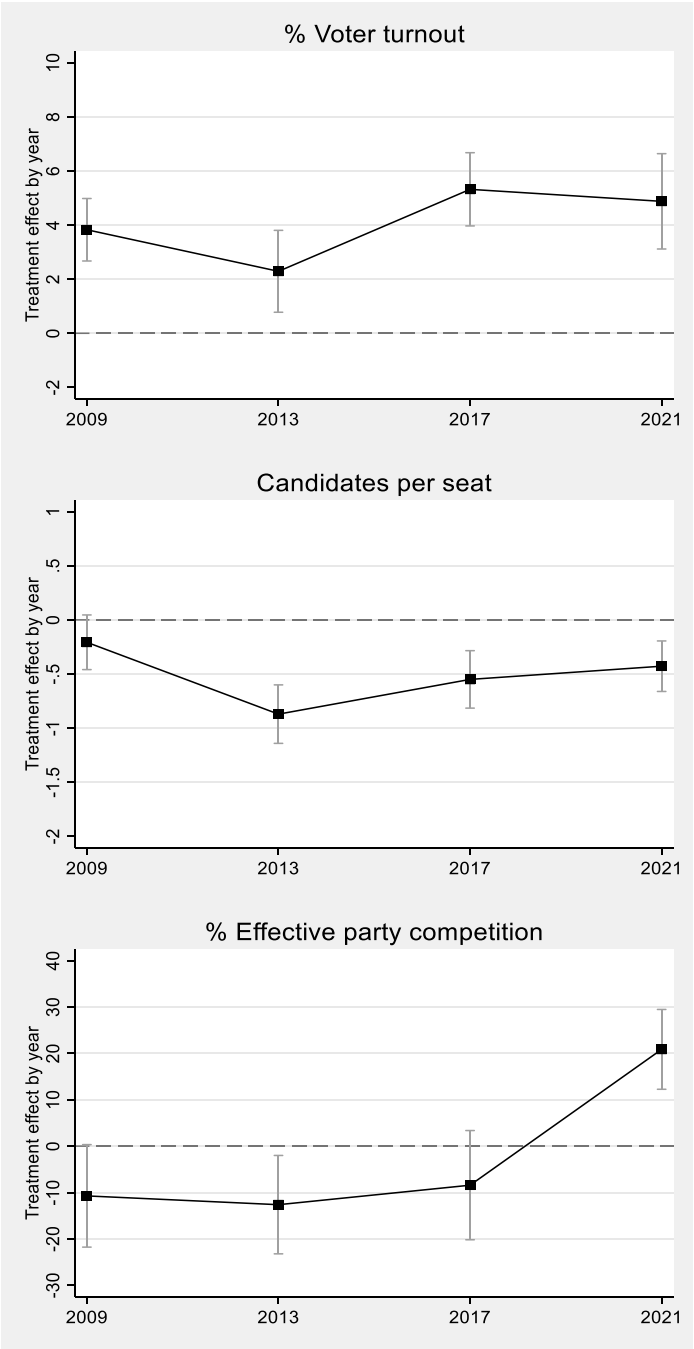


Figure 2. Post-intervention treatment effects: consolidated counties (point estimates with 95% confidence intervals).

competition, as [Figure 1](#) highlights a u-shaped trajectory in the post-consolidation period.

[Figure 2](#) indicates that the improvement in voter turnout in consolidated counties was statistically significant in all four post-consolidation elections, and that the reduction in candidates per seat in those counties was statistically significant from the second post-consolidation election onwards. By contrast, there was a statistically significant decrease in effective party competition in consolidated counties in 2013, but a significant increase in 2021, highlighting the complex effects of consolidation on this aspect of local elections. Combined with the SDID plots and the ATTs reported in [Table 2](#), the year-on-year treatment effects underline that vertical consolidation can have important consequences for local electoral participation.

Robustness checks

To assess whether selection bias associated with the decision to allow some consolidations to go ahead rather than others might affect the SDID estimates, the ‘pre-treatment’ outcomes for the consolidated counties were compared with those for ‘nearly-consolidated’ counties – eight counties that applied to reorganise in 2009 but were not permitted.⁸ In addition, SDID analyses using the nearly consolidated counties as the donor pool were carried out. These further tests revealed: i) no statistically significant differences between the outcome variables for the consolidated and nearly consolidated counties in the year 2005 – the election year preceding the consolidations (see Table S1 in the supplemental file); and, ii) virtually identical SDID estimates when using the nearly consolidated counties to construct the synthetic control (see Figure S3). Although the sample size for these supplementary analyses is small, they provide some reassurance that selection bias may not have influenced the findings.

At the same time the 2009 consolidations occurred, the number of electoral districts was expanded in four out of the five consolidated counties (see Figure S4). To assess whether the estimated effects presented above might be attributed to redistricting rather than consolidation, the separate and combined effects of the consolidation reform and the number of electoral seats per county area were estimated using two-way fixed effects models. This exploratory analysis, reported in [Table 2](#) in the supplemental file, suggests the post-consolidation changes in electoral outcomes are likely attributable to the consolidation reform rather than redistricting.

Discussion

This paper employs a quasi-experimental SDID approach to investigate the effects of vertical consolidation on local voter turnout in rural counties in

England. The results suggest voter turnout increased following consolidation, potentially because of changes in local politics in consolidated counties, with the average number of candidates contesting seats falling and effective political competition weakening after consolidation. Overall, the findings diverge from studies examining horizontal amalgamation and voter turnout indicating political engagement is harmed by structural reforms of local government systems. It is possible that vertical consolidation is a more effective institutional design for realising the potential benefits of structural reform than horizontal amalgamation. In particular, contextual factors characterising the consolidations analysed here, such as the expanded responsibilities of the new organisations, could explain the divergence from the established evidence base. As such, the positive connection between consolidation and turnout identified in this study can provide some succour for policy-makers contemplating vertical structural reforms, which are often criticised as anti-democratic (Chisholm and Leach 2011). The theoretical and practical implications of the analysis are discussed further next.

Theoretical implications

The findings presented here support arguments about the stronger political mobilisation and contestation effects and lower information costs in consolidated units of local government. They contrast strongly with arguments about the detrimental effects of local government size (McDonnell 2020) and fragmentation (Cerqua and Di Matteo 2025) for voter turnout, as well as the empirical evidence for the voter, mobilisation and place-based effects of amalgamations (Gendźwiłł, Kjaer, and Steyvers 2022; A. Tavares 2024). It seems likely that contextual features of the vertical consolidations studied here are influential, especially changes in the order of importance of local elections. The abolition of district councils in consolidated English counties terminated elections at the bottom of the electoral hierarchy and led to their integration into a higher order election with more at stake than in the preceding district or county council elections. The present results therefore affirm second-order theory, which posits that higher-order elections matter more for voters, politicians, party activists and the media (Reif and Schmitt 1980), especially when those elections are for the whole rather than part of a jurisdiction (Rallings and Thrasher 2005). Survey data capturing stakeholders' perceptions of the relative importance of the different elections within multi-tier systems would further enrich our understanding of this dynamic, particularly when set against similar data on elections in single-tier local government systems.

As well as removal of a lower order election, vertical consolidation involves the expansion of county-wide powers to include those previously exercised by district councils – a development second order theory suggests boosts

electoral turnout. Indeed, research comparing different national approaches to horizontal amalgamation shows that voter turnout increases when amalgamations accord local governments greater power (Bolgherini and Paparo 2023). In addition to the increased salience of elections, the information costs associated with understanding the policies and politics of a simplified consolidated structure may be lower than where a voter's local government is merged with neighbouring governments. This may generate the increased political efficacy usually linked with higher turnout in small governments (Lassen and Serritzlew 2011), especially as prior studies highlight how inter-council political warfare between amalgamated units can lead to disengagement (Baker and Gwinn 2026; Bönisch, Geys, and Michelsen 2019). In essence, mobilisation of voters across expanded amalgamated territorial boundaries is likely to require more strategic (re)allocation of resources for political parties than in consolidated counties where countywide campaign structures are already in place. In depth, qualitative case-study research exploring party management in consolidated and non-consolidated counties would thus provide invaluable insight into the impact of this contextual factor on the divergence between the findings here and those from amalgamation studies.

Practical implications

The results suggest vertical consolidation could have a positive effect on voter turnout. As such, this study could offer policy-makers a cogent political rationale complementing the economic and strategic rationales typically deployed to justify consolidation. The mechanisms through which improved electoral participation through consolidation might occur are related to the perceived importance of elections to consolidated councils and the resources candidates for office can mobilise when there are fewer second-order elections. These features of consolidation might result in fewer candidates contesting seats, which could enable political parties (and policy-makers) to invest in improving candidate quality by having more competitive selection processes or by providing more impartial information to voters on the candidates. Likewise, while effective party competition might suffer after consolidation, it is also possible increased electoral participation ultimately provides political parties with the incentive to compete more vigorously in consolidated areas. All of these developments can potentially provide local citizens with clearer and more meaningful choices among the different policy programmes that could be tailored to their interests.

Limitations and further research

Although the analysis reported here applies a quasi-experimental method to a long panel of electoral data, it has clear limitations. Firstly, there is a need to

better understand the effects of consolidation on citizens' perceptions of local elections. Abolition of the district councils beneath the county-level governments removed an important focal point for local political participation. It is possible the increase in voter turnout is less a product of renewed political engagement, than the outcome of necessity for local citizens wishing to register their discontent at the ballot box. Indeed, it may even reflect dissatisfaction with the process and outcome of consolidation (Bolgherini and Mollisi 2024). Future studies of vertical consolidation and voter turnout should therefore seek to explore local people's understanding of local democracy during and after consolidations, especially by probing their reasons for participating in local elections.

Secondly, while the study deals with the relative competitiveness of the elections by investigating the number of candidates and effective party competition, it does not address the relative closeness of election outcomes or the quality of politicians standing for office. Prior research has suggested electoral competition and candidate quality are positively correlated (De Paola and Scoppa 2011). However, to date, few analyses have directly analysed the ways in which local government amalgamations or consolidations affect electoral marginality and candidate quality – though see Shimizu's (2012) analysis of support for local versus national political parties in amalgamated municipalities in Japan. Quasi-experimental studies utilising secondary data to address the impact of vertical consolidation on a wider array of indicators of democratic health would therefore cast invaluable light on the full spectrum of political effects associated with structural reforms of local government systems.

Finally, another limitation is the distinctiveness of the reform context. The full consolidation of five English county areas in 2009 presents a valuable 'natural experiment' for exploring the effects of structural reform, but involved comparatively few units of local government, which all voluntarily chose to undergo reorganisation. Much larger consolidations are currently underway in England, involving many more units of government. Studies analysing the effects of consolidations of larger numbers of local governments, of larger governments, in different countries, including coerced and voluntary consolidations would increase the generalisability of the results presented here.

Notes

1. The structure of a whole-county consolidation is depicted in Figure S1 in the supplemental file.
2. There have subsequently been whole-county consolidations in Buckinghamshire (2020), North Yorkshire (2023) and Somerset (2023), and split-county consolidations in Dorset (2019), Northamptonshire (2021) and Cumbria

(2023). These new unitary authorities all switched away from the county election cycle before 2021 and are not included in the donor pool for the analysis. In 2025, UK central government approved the consolidation of authorities in eight additional counties, which if implemented would constitute the most significant structural reforms since the passing of the Local Government and Public Involvement in Health Act 2007. Elections to the councils in these counties were postponed in 2025, so have not been held at that level since 2021.

3. The structure of these vertical consolidations is shown in Figure S1 in the supplemental file.
4. For interested readers, the time-specific weights (denoted Λ) employed for the SDID analyses are shown in Figure 1. The unit-specific weights are reported in Figure A1 in the Appendix.
5. Trends in the number of local authorities in county areas that could propose voluntary reorganisation in 2007 are shown for the whole study period (1973–2021) in Figure S2 in the supplemental file.
6. Cambridgeshire, Derbyshire, Devon, East Sussex, Essex, Gloucestershire, Hampshire, Hertfordshire, Kent, Lancashire, Leicestershire, Lincolnshire, Norfolk, Nottinghamshire, Oxfordshire, Staffordshire, Suffolk, Surrey, Warwickshire, West Sussex, Worcestershire.
7. There is no one common cycle for elections to lower-tier district councils or ‘old’ unitary authorities. Some jurisdictions have quadrennial elections for all the council seats, with elections taking place in different years. Some jurisdictions undertake annual elections of a third of the council’s seats and then have no elections during a county council election year. A small number of jurisdictions carry out biannual whole council elections.
8. Cumbria, Devon, Lancashire, Norfolk, North Yorkshire, Oxfordshire, Somerset and Suffolk. Three of these counties were consolidated in 2021, so the supplementary analysis is restricted to 2017.

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Appendix

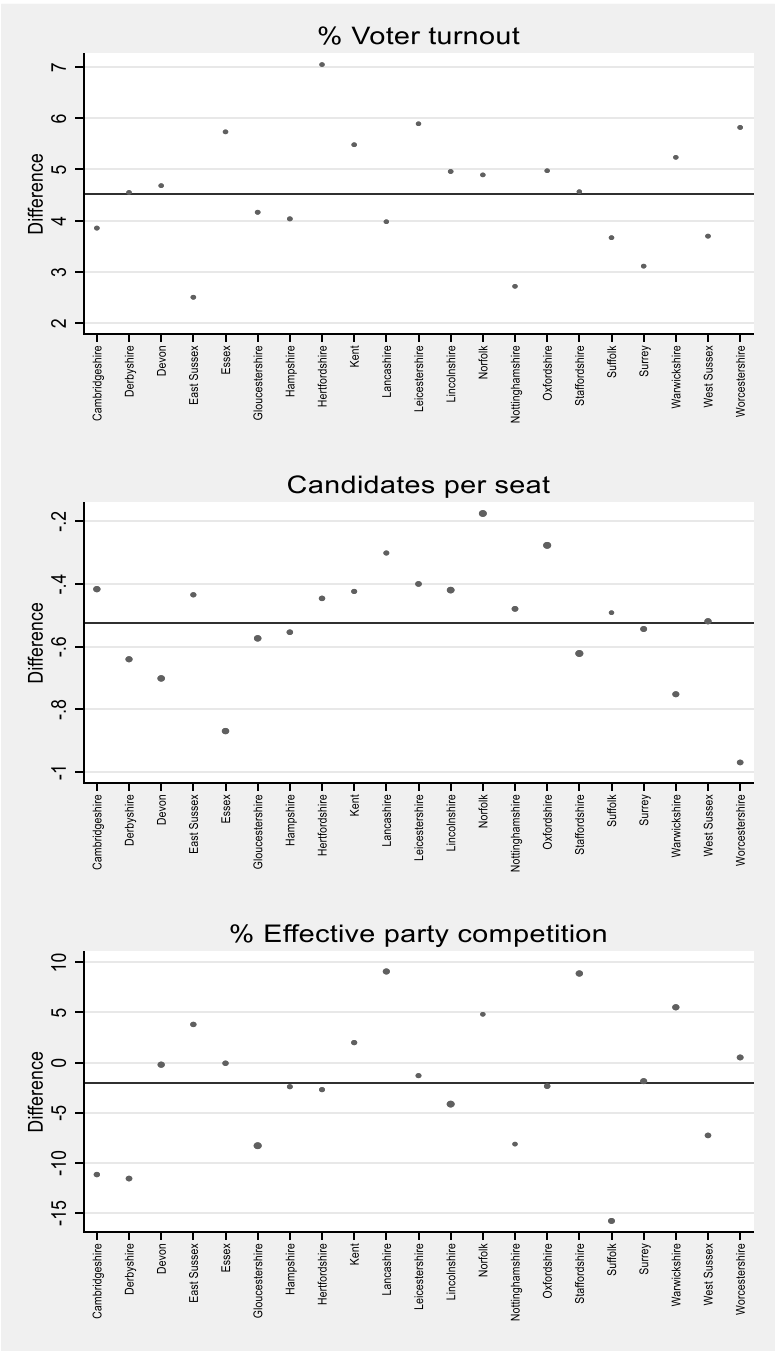


Figure A1. Unit-specific effects. Note: The size of the circles denotes the size of the weighting of each non-consolidated county within the synthetic control.