

DETAILED PARTNER RESEARCH REPORT

County Court Judgments, financial vulnerability and spatial inequality in England

Results, maps and practical interpretation for external communication

Prepared by	Research context
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Status	Submitted; assessment outcome pending

Sharing status. This partner-facing report presents selected figures and independently written explanations from the submitted research. It is not the full dissertation and should not be described as UCL-assessed, UCL-approved or as a confirmed degree outcome while marking is pending.

What this report provides

- A clear account of the research question, data and analytical workflow.
- Nine core results figures, with plain-English guidance on how to interpret each one.
- Detailed national findings, model evidence and selected local-authority examples.
- Practical implications, responsible-use limits and website-ready wording.

1. Project overview

The project investigated how cumulative registered consumer County Court Judgments (CCJs) are distributed across England, and whether local burdens differ from the levels expected from broad socioeconomic conditions. It was motivated by a practical problem: raw counts, conventional maps and deprivation measures each reveal only one part of the geography of unresolved debt.

Central research question. How can a population-aware spatial analysis improve the identification and interpretation of cumulative registered consumer CCJ burden across England?

Why the question matters

- **Raw totals** are affected by population size and therefore do not provide fair comparisons between places.
- **Conventional maps** can visually understate compact, densely populated authorities and overemphasise large rural land areas.
- **Deprivation** is a major structural risk factor, but similarly deprived places can experience different formal debt outcomes.
- **Debt-support planning** needs to distinguish high relative intensity from high absolute service demand.

Analytical scope

Measure	Coverage
Registered consumer CCJs	4,401,837 judgment events
Neighbourhoods	33,754 Lower Layer Super Output Areas (LSOAs)
Local authorities	296 Local Authority Districts (LADs)
Adult population	44,714,530 adults aged 18 and over
Geographical coverage	England
Register window	Approximately April 2020 to March 2026

The England-wide cumulative rate was 98.44 registered CCJs per 1,000 adults. The analysis used Registry Trust records alongside Census 2021 adult population counts, the English Indices of Deprivation 2025, the official urban-rural classification and English Regions.

2. Analytical approach

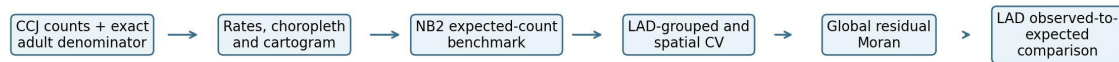


Figure 3.1. Analytical workflow.

Source: submitted dissertation, p. 18 (Keyu Chen, 2026).

What was done

- Population-standardised rates were calculated to compare places of different sizes.
- A conventional choropleth was paired with a Dorling cartogram that resized authorities by adult population.
- A negative-binomial count model estimated expected CCJs using adult population exposure, deprivation, urban-rural status and Region.
- Five-fold validation withheld complete local authorities; a stricter design also removed nearby training areas within 10 km.
- Observed and out-of-sample expected counts were aggregated to LADs and compared as observed-to-expected (O/E) ratios.

Interpretation rule. An O/E value above 1 means the observed burden exceeded the model benchmark; below 1 means fewer judgments than predicted. It is a screening signal, not a causal result or a performance score.

3. Finding one: a steep deprivation gradient

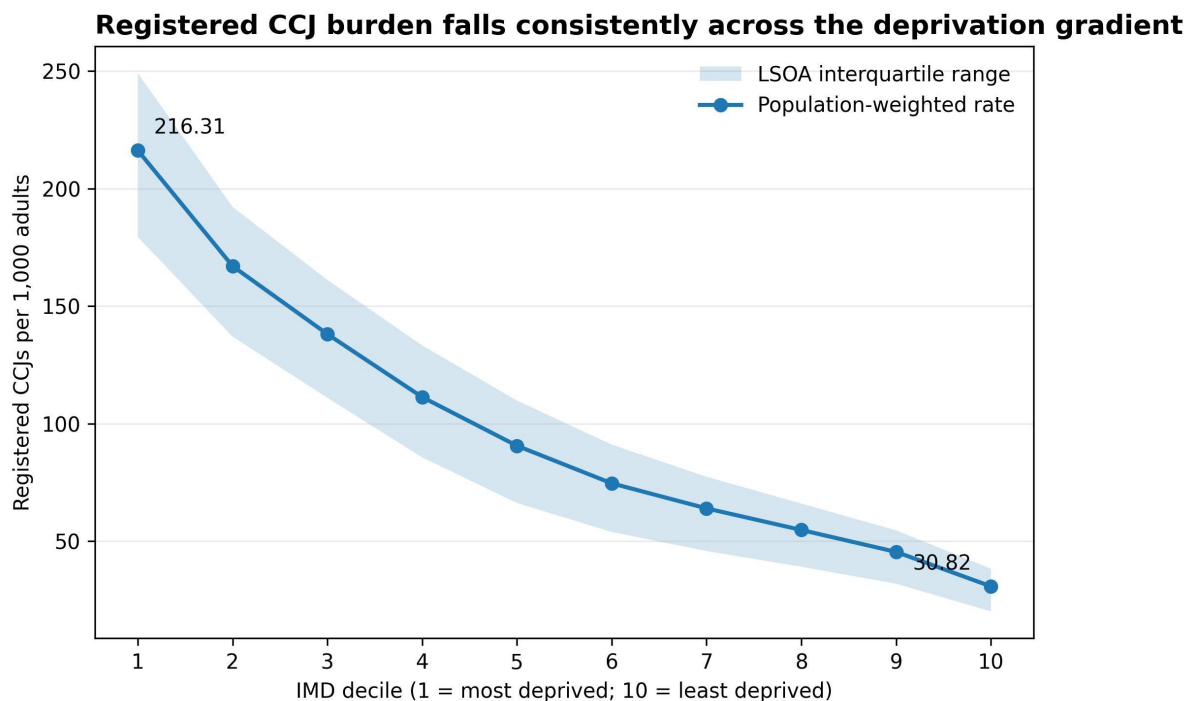


Figure 4.1. Population-weighted cumulative registered CCJ rate by IMD decile.

Source: submitted dissertation, p. 23 (Keyu Chen, 2026).

What the figure shows

The cumulative rate fell consistently as deprivation decreased. The most deprived tenth of neighbourhoods recorded 216.31 CCJs per 1,000 adults, compared with 30.82 in the least deprived tenth. The most-deprived rate was therefore 7.02 times the least-deprived rate.

- The most deprived quintile contained about one fifth of the adult population but accounted for more than one third of registered CCJs.
- The continuous IMD score was strongly correlated with the neighbourhood CCJ rate (Spearman rho = 0.863).
- Wide variation remained within each deprivation decile, meaning that neighbourhoods with similar IMD scores did not necessarily record similar CCJ rates.

Key message for external communication. Deprivation is the dominant national correlate of registered CCJ burden, but it does not fully determine local outcomes.

4. Finding two: settlement and regional context matter

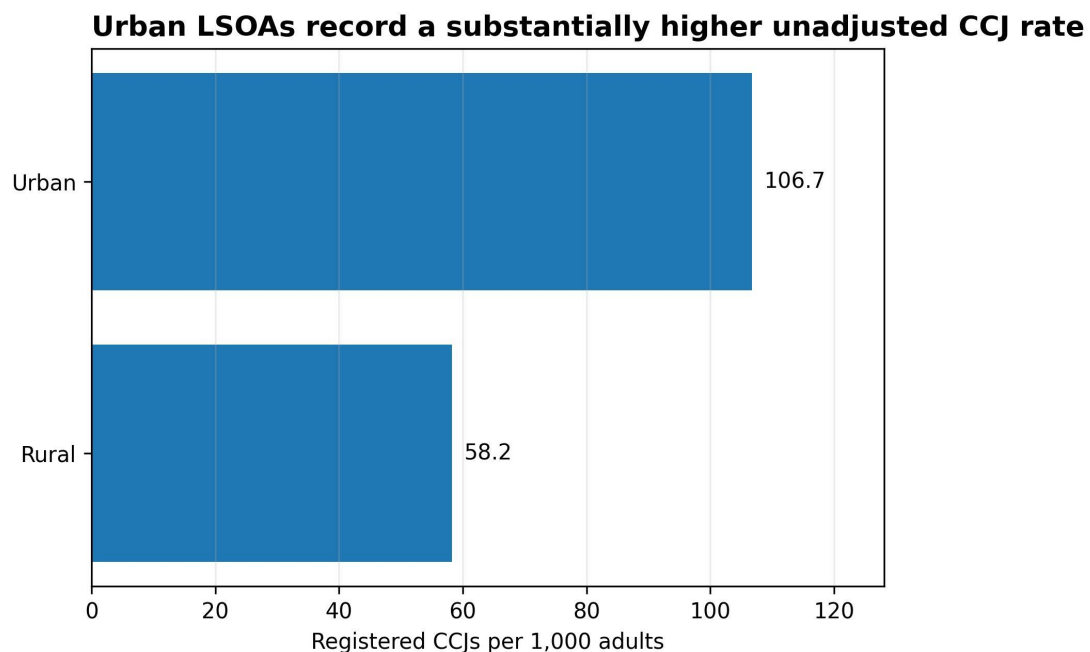


Figure 4.2. Population-weighted cumulative CCJ rates in urban and rural LSOAs.

Source: submitted dissertation, p. 24 (Keyu Chen, 2026).

Urban LSOAs recorded an unadjusted cumulative rate of 106.7 CCJs per 1,000 adults, compared with 58.2 in rural LSOAs - an urban-to-rural ratio of 1.83. After adjusting for deprivation and Region, the expected urban rate was 1.305 times the rural rate, showing that part of the raw difference reflected socioeconomic and regional composition.

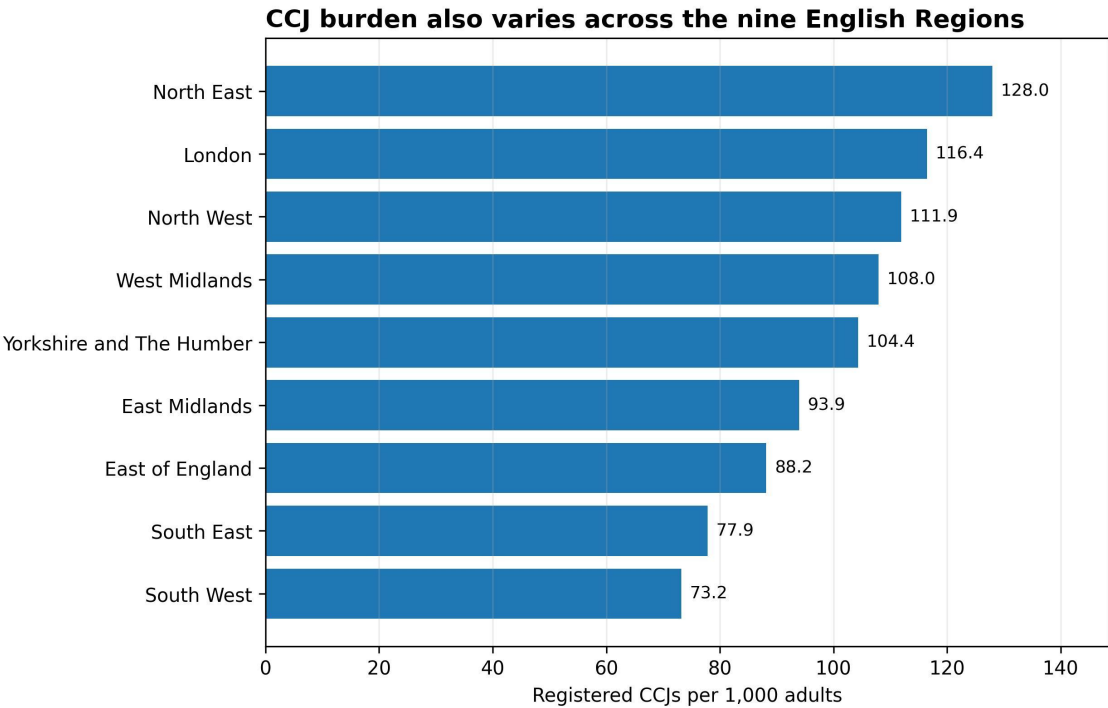


Figure 4.3. Population-weighted cumulative registered CCJ rates across the nine English Regions.

Source: submitted dissertation, p. 25 (Keyu Chen, 2026).

The regional rate ranged from 128.0 per 1,000 adults in the North East to 73.2 in the South West. London recorded 116.4, the North West 111.9 and the West Midlands 108.0 per 1,000 adults.

Important qualification. Urban areas had the higher average burden, but the deprivation gradient was proportionally steeper in rural areas: a one-standard-deviation increase in IMD corresponded to an expected-rate increase of about 93% in rural LSOAs and 70% in urban LSOAs.

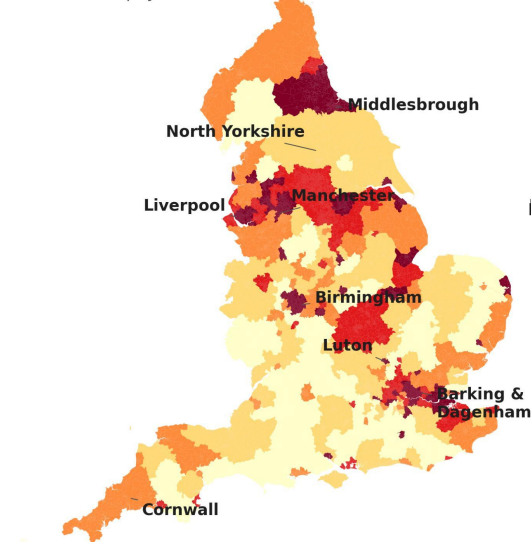
5. Finding three: map design changes the story readers see

The same CCJ rates produce different visual hierarchies

Cumulative registered CCJs per 1,000 adults; identical quintile classes in both panels

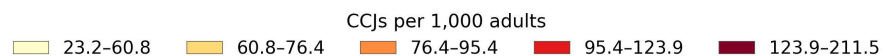
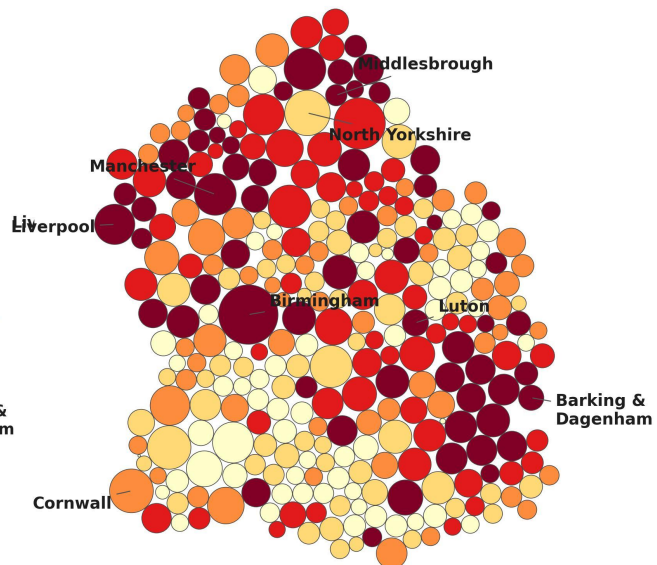
A. Conventional choropleth

Visual area = physical land area



B. Adjacency-aware Dorling cartogram

Circle area $\propto$ exact Census 2021 population aged 18+



Sources: Registry Trust Ltd (Q1 2026), ONS Census 2021 TS007A and RM200, ONS LAD24 boundaries. Colour classes are LAD quintiles.

Figure 4.4. Conventional LAD choropleth and adjacency-aware Dorling population cartogram.

Source: submitted dissertation, p. 26 (Keyu Chen, 2026).

How to read the comparison

Both panels show identical CCJ rates and use the same quintile colours. The difference is visual area. In the conventional map, large authorities such as North Yorkshire and Cornwall occupy substantial space despite rates of 61.66 and 88.86 per 1,000 adults. Compact high-rate authorities such as Barking and Dagenham (211.50), Middlesbrough (198.69) and Luton (168.92) appear small.

The cartogram resizes each LAD by its exact Census 2021 adult population. Birmingham, Manchester, Liverpool and the London boroughs therefore become more visible, allowing readers to consider relative intensity alongside the potential scale of service demand.

- No LAD circles overlapped in the final cartogram.
- Distances remained strongly correlated with conventional geography (Spearman rho = 0.869).
- 78.0% of originally adjacent LADs remained among one another's eight nearest cartogram neighbours.

Practical implication. Use the choropleth to preserve familiar geography and the cartogram to prevent populous urban areas from being visually understated. Neither map should be used alone.

6. Finding four: deprivation remains strong after adjustment

A Poisson model was initially tested, but the data were substantially overdispersed. The negative-binomial (NB2) model reduced the Pearson dispersion statistic from 16.38 to 1.008 and lowered AIC from 763,595 to 345,475, supporting its use as the expected-count benchmark.

Relationship	IRR	95% confidence interval
Overall IMD, per 1 SD	1.714	1.675-1.754
Urban versus rural	1.305	1.264-1.348
IMD effect within rural LSOAs	1.928	1.862-1.997
IMD effect within urban LSOAs	1.702	1.662-1.742

An incidence-rate ratio (IRR) above 1 indicates a higher expected rate. The overall IMD IRR of 1.714 means that a one-standard-deviation increase in deprivation was associated with a 71.4% higher expected CCJ rate after accounting for population exposure, urban-rural status and Region.

The LAD-clustered confidence interval (1.675-1.754) and the 10-km Conley spatial interval (1.678-1.751) were nearly identical. The strength of the estimated deprivation association was therefore stable under alternative treatments of spatial dependence.

What this does not show. The model estimates area-level association, not individual risk or a causal effect of deprivation. It is a transparent benchmark for comparison, not a complete explanation of why judgments occur.

7. Finding five: the benchmark transfers beyond the areas used to fit it

The deprivation benchmark preserves the broad ranking of unseen LSOAs

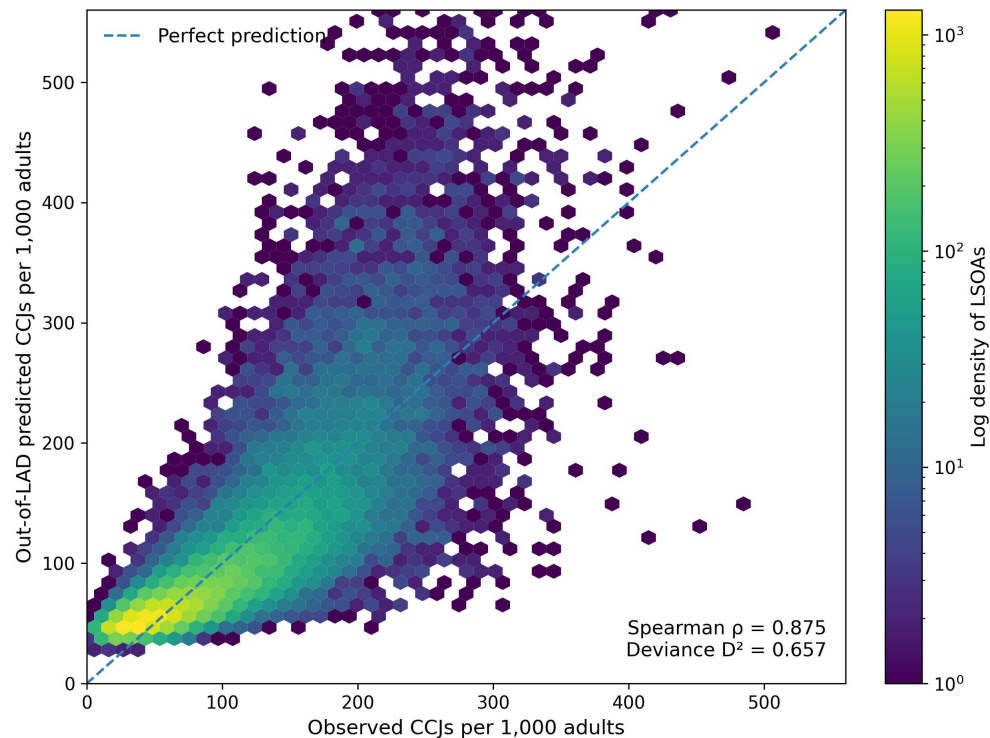


Figure 4.5. Observed and out-of-LAD predicted cumulative CCJ rates.

Source: submitted dissertation, p. 28 (Keyu Chen, 2026).

Every neighbourhood prediction in the LAD-grouped validation was produced by a model that had not been fitted using any LSOA from that neighbourhood's local authority. The benchmark reproduced much of the broad variation and ranking of observed rates, although meaningful errors remained for individual areas.

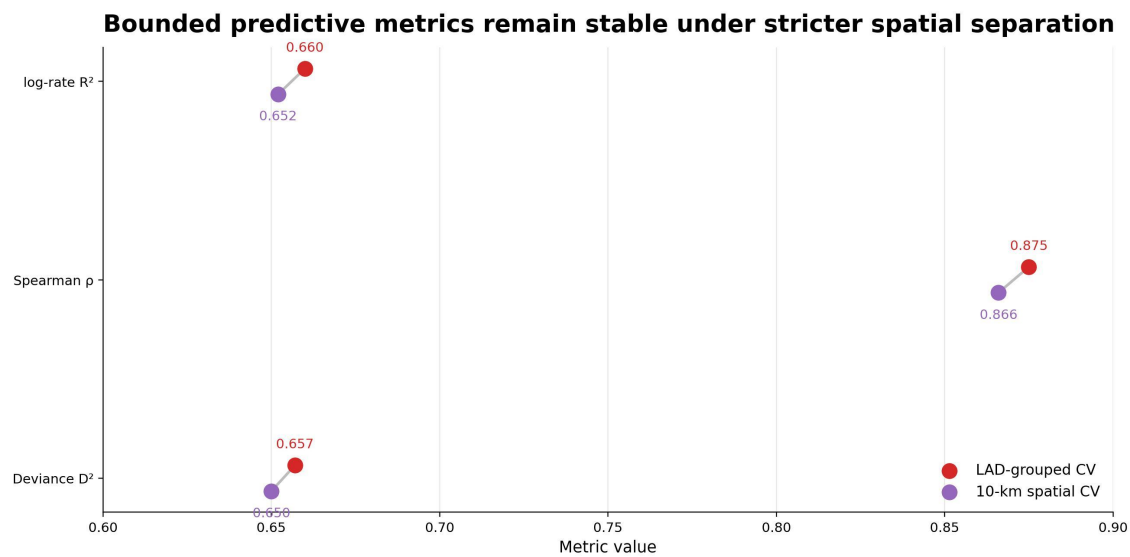


Figure 4.6. Predictive performance under LAD-grouped and 10-km spatially buffered cross-validation.

Source: submitted dissertation, p. 29 (Keyu Chen, 2026).

Validation design	MAE	RMSE	Log-rate R2	Spearman rho	Deviance D2
LAD-grouped five-fold CV	29.84	49.04	0.660	0.875	0.657
10-km spatial buffer CV	30.07	48.47	0.652	0.866	0.650

Performance changed only slightly when nearby training observations were also removed. This indicates that the broad predictive relationship was not primarily sustained by immediately neighbouring areas.

8. Finding six: observed burden and above-expected burden are different

Most LADs follow the national benchmark, but several depart substantially

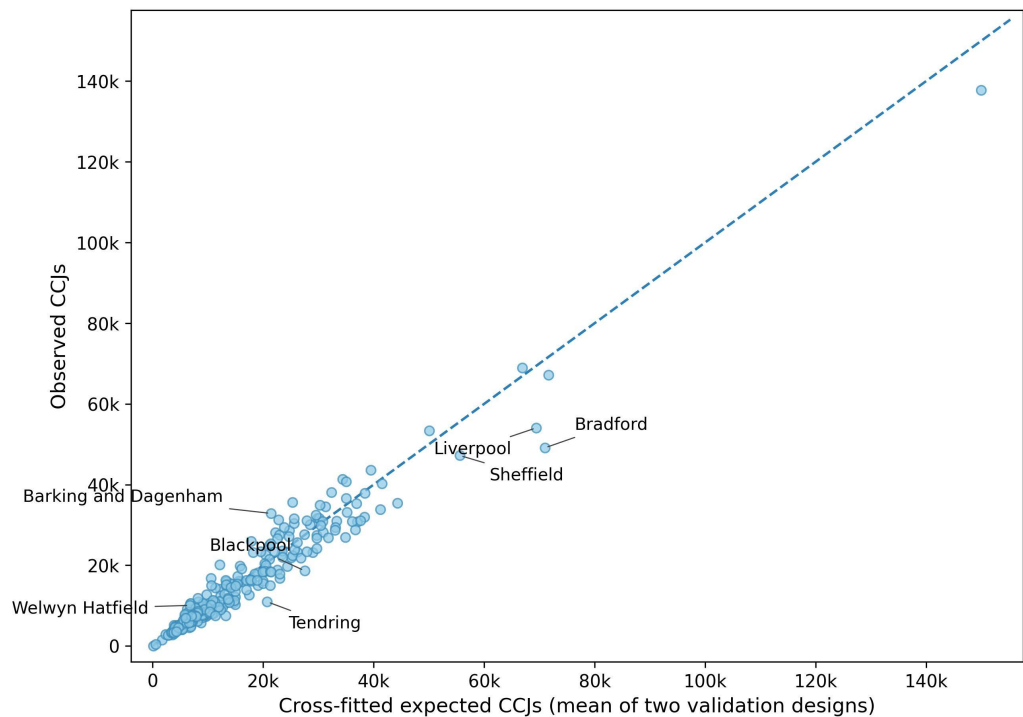


Figure 4.7. Observed and model-expected registered CCJ counts across Local Authority Districts.

Source: submitted dissertation, p. 30 (Keyu Chen, 2026).

Authorities above the diagonal recorded more judgments than the socioeconomic benchmark predicted; those below it recorded fewer. The comparison separates the observed burden from its proportional departure from expectation. A deprived place can have a high rate but remain close to or below an already high expected count. A less deprived place can have a moderate rate but still lie substantially above expectation.

A robust classification required both validation designs to cross the same threshold in the same direction. At the 10% threshold, 64 of 296 LADs were above expectation and 87 below. At the stricter 20% threshold, 29 remained above and 28 below.

Selected LAD	Observed rate per 1,000	O/E range	Approx. conservative excess/shortfall
Barking and Dagenham	211.5	1.510-1.558	+11,100
Welwyn Hatfield	106.1	1.466-1.522	+3,200
Sheffield	106.3	0.824-0.877	-6,600
Blackpool	164.6	0.665-0.688	-8,400
Tendring	89.8	0.520-0.537	-9,400

Selected LAD	Observed rate per 1,000	O/E range	Approx. conservative excess/shortfall
Liverpool	137.4	0.773-0.783	-15,000
Bradford	121.1	0.682-0.702	-20,800

9. Finding seven: unexplained departures are geographically clustered

Out-of-LAD residual burden remains geographically structured

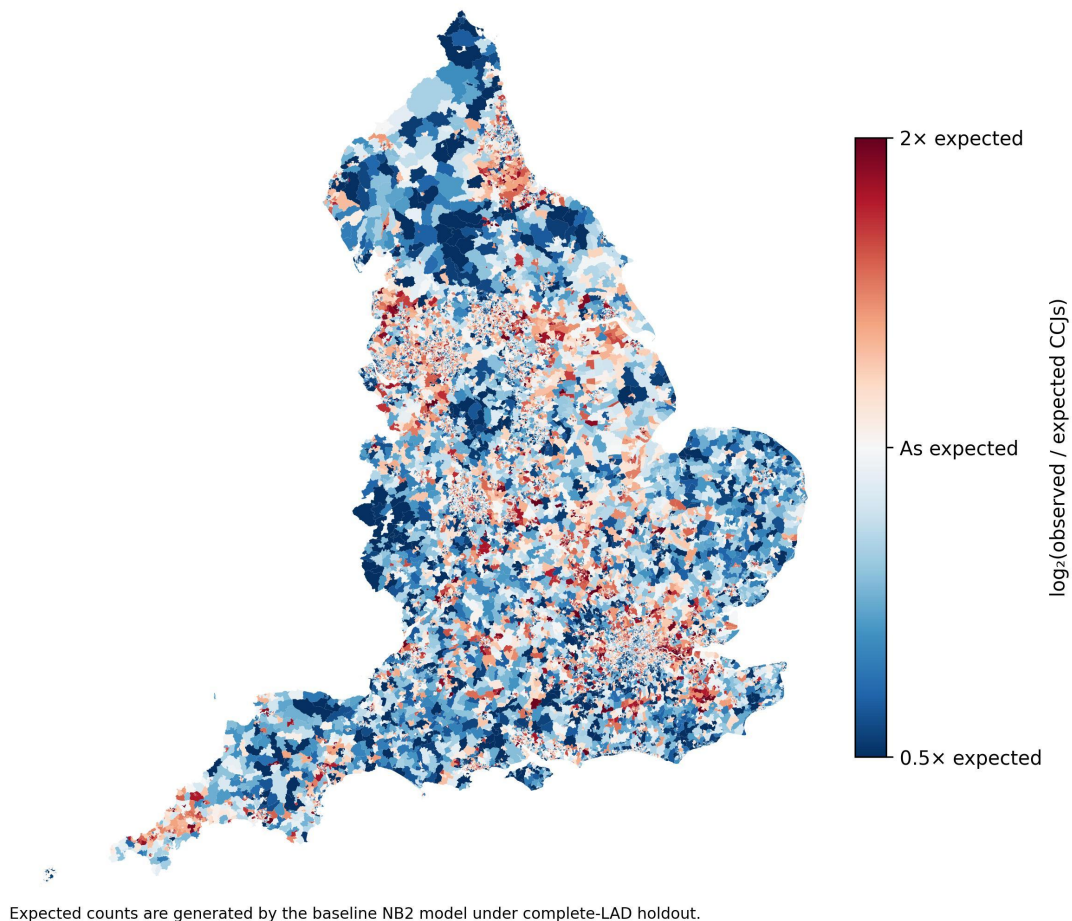


Figure 4.8. LSOA-level observed-to-expected CCJ burden under complete-LAD holdout.

Source: submitted dissertation, p. 31 (Keyu Chen, 2026).

Positive and negative out-of-fold residuals clustered geographically. Global Moran's I was 0.384, with $p = 0.0001$ from 9,999 two-sided permutations. Areas with positive departures tended to be near other positive departures, and negative departures also clustered.

Local authority departures are not reducible to raw deprivation levels

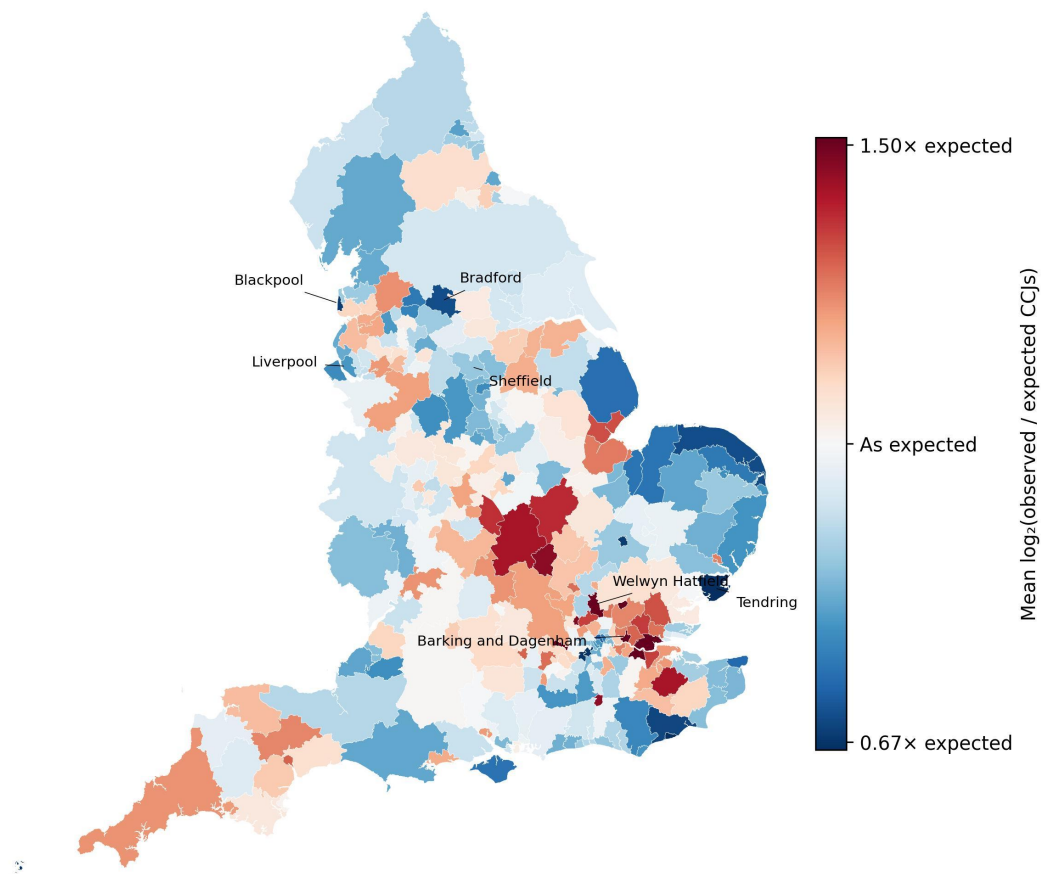


Figure 4.9. Local Authority District observed-to-expected registered CCJ burden.

Source: submitted dissertation, p. 32 (Keyu Chen, 2026).

The O/E pattern is visibly different from the national deprivation geography. This means the remaining variation was geographically structured even after accounting for adult population, deprivation, urban-rural status and Region. The map identifies where follow-up investigation may be most valuable; it does not identify which mechanism produced the departure.

10. Interpreting selected local cases

Barking and Dagenham: compound disadvantage

The observed burden was about 51%-56% above an already high deprivation-based expectation, with a conservative estimated excess of about 11,100 judgments. Housing and living-cost pressures are plausible contributors not fully represented by average neighbourhood IMD. The result supports closer investigation of advice access, referral timing, creditor behaviour and the pathway from arrears to enforcement. It does not prove that any one local institution caused the excess.

Welwyn Hatfield: hidden vulnerability in a more affluent profile

The observed burden was about 47%-52% above expectation, with a conservative estimated excess of about 3,200 judgments, despite a comparatively favourable deprivation profile. Housing affordability is a plausible mechanism through which households can face limited disposable income even in a generally affluent authority. The case shows why deprivation averages should not be used alone to exclude areas from debt-support planning.

Bradford and Tending: high need but below expectation

Both areas recorded fewer judgments than the national benchmark predicted despite substantial socioeconomic disadvantage. Existing partnership, advice and early-engagement arrangements provide hypotheses for further research, but the analysis cannot establish that these practices caused the lower-than-expected burden.

Correct interpretation. Below expectation does not mean low vulnerability or low service demand. These places may still have substantial CCJ rates and absolute need. The result identifies relative departure from the benchmark, not an instruction to withdraw support.

11. Practical contribution and potential use

The project developed a reproducible population-aware spatial screening framework that combines four non-equivalent dimensions of debt-related need:

- IMD describes the concentration of underlying socioeconomic disadvantage.
- Total registered CCJs indicate absolute judgment volume and potential workload.
- CCJs per 1,000 adults describe relative intensity after accounting for population size.
- The O/E ratio identifies departure from the specified national socioeconomic benchmark.

How the framework can support partners

- Identify high-rate areas that may benefit from preventive outreach and early advice.
- Recognise populous authorities where absolute service demand may be large even if rates are not the highest.
- Use persistent above-expected signals to select places for deeper investigation of housing costs, debt composition, creditor practice, advice accessibility and referral pathways.
- Use below-expected cases to formulate questions about potentially transferable practices, while retaining support where absolute need remains high.
- Communicate spatial inequality with both conventional geography and population-aware visualisation.

Contribution delivered

Created the end-to-end analytical workflow: data preparation and population standardisation; construction and validation of an adjacency-aware population cartogram; negative-binomial expected-count modelling; geographically structured cross-validation; observed-to-expected comparison; spatial residual analysis; and the production of reproducible maps, figures and local-authority results. The contribution is both substantive - clarifying England's geography of registered CCJ burden - and methodological, through a transparent screening approach that can guide later investigation.

12. Responsible interpretation and limitations

- The Registry Trust extract measures judgment events remaining registered in Q1 2026, producing an approximately six-year cumulative snapshot rather than annual incidence.
- The records do not identify unique debtors. A rate of 100 CCJs per 1,000 adults does not mean that 10% of residents received a judgment; one individual may have multiple judgments.
- The data do not capture arrears that were repaid, renegotiated or resolved without registration.
- The Census 2021 population denominator and IMD 2025 covariates do not align with the timing of every judgment, so the analysis cannot attribute changes to a particular event or policy.
- The findings are ecological and area-level. They do not estimate an individual resident's probability of receiving a CCJ.
- The benchmark intentionally excludes some potentially important mechanisms, including housing costs, wealth, debt type, creditor composition, enforcement practice and access to advice.
- Residual clustering shows that omitted differences are geographically organised, but it cannot identify their causes.
- The results should not be used as a league table of local-authority performance or as an automatic resource-allocation formula.

Recommended language. Describe the outputs as screening signals that help prioritise questions and further investigation. Avoid claims that the analysis proves a policy failure, proves service effectiveness or establishes causation.

Next research steps

Future work could use annual or quarterly registrations linked, where possible, to creditor category, debt type, judgment value and later satisfaction or removal. Repeated O/E estimates could then be aligned with changes in living costs, welfare support, advice capacity and recovery practice. Matched-authority studies and quasi-experimental designs could investigate whether changes in support or enforcement precede changes in CCJ incidence.