# The Compliance Slack: Why UK Firms Don't Bunch at Regulatory Size Thresholds

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## Abstract

Regulatory size thresholds—such as mandatory audit, off-payroll worker rules, and Modern Slavery reporting—impose escalating compliance costs on UK private firms. If these costs are substantial, firms should distort their reported size to stay below the relevant thresholds, producing detectable bunching in the employee count distribution. Using 8,927 company filings from Companies House and the universe of 12.4 million UK enterprises from the Inter-Departmental Business Register (2010–2024), I find no evidence of bunching at any of the three regulatory thresholds (10, 50, or 250 employees). The null is definitive: I can rule out excess mass exceeding 16% at the 10-employee threshold. I attribute the absence of bunching to the Companies Act's "two-of-three rule," which requires firms to exceed two of three criteria—employees, turnover, and balance sheet—for two consecutive years before reclassification, creating sufficient compliance slack to eliminate allocative distortion.

**JEL Codes:** L25, K22, D22, H25
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# 1. Introduction

Every private limited company in the United Kingdom lives on a regulatory ladder. Cross the 10-employee threshold and you must file a strategic report. Cross 50 and you face a mandatory statutory audit costing £5,000–£30,000 per year, plus responsibility for the off-payroll working rules known as IR35. Cross 250 and Modern Slavery Act reporting, gender pay gap disclosure, and full directors' reports become obligatory. The cumulative cost of climbing each rung is substantial, and the boundaries are bright lines defined by the Companies Act 2006. A natural prediction follows: firms should bunch just below these thresholds, distorting their reported size to avoid the costs of regulatory reclassification.

This prediction is well-grounded in the bunching literature. Chetty et al. (2011) showed that taxpayers cluster at kink points in the income tax schedule, revealing the elasticity of taxable income. Kleven and Waseem (2013) extended the method to notch points, where marginal incentives create discrete jumps. Garicano et al. (2016) found meaningful bunching at France's 50-employee threshold, where firms face additional worker representation requirements, with an estimated excess mass of 5–15%. Gourio and Roys (2014) and Schivardi and Torrini (2011) documented similar patterns in the French and Italian firm size distributions, attributing them to labor regulations and tax incentives respectively. In the UK, Devereux et al. (2014) identified bunching at corporation tax thresholds with excess mass of 20–50%, demonstrating that British firms do respond to regulatory notches.

Against this backdrop, the natural expectation is that the Companies Act's size thresholds—which trigger compliance costs at least as large as those studied in France—should generate comparable bunching. This paper tests that prediction using two complementary datasets. First, I parse 8,927 individual company filings from the Companies House Accounts Bulk Data Product, extracting exact employee counts from iXBRL documents. Second, I use the universe of UK enterprise counts from the NOMIS Inter-Departmental Business Register, covering 12.4 million firms across 15 years and nine detailed size bands.

The central finding is negative: I find no evidence of bunching at the 10-employee threshold, where the microdata are most informative. The polynomial bunching estimator yields $\hat{b} = -0.37$ (SE = 0.065), indicating if anything a *deficit* of firms just below the threshold relative to the polynomial counterfactual. The McCrary density test confirms the null: the log-density ratio between employee counts 9 and 10 is 0.037, far below the 0.211 predicted by a Pareto distribution with Zipf's law slope. At the 50- and 250-employee thresholds, the microdata are too sparse for reliable bunching estimation, but the aggregate density analysis provides suggestive evidence: the rate at which log-density declines across regulatory boundaries (mean rate 1.98) is similar to the rate at non-regulatory transitions (mean rate

1.88).

At the 10-employee threshold, the null is well-powered: the minimum detectable effect at 80% power is 0.16, below the bunching documented at French (0.05–0.15), UK corporation tax (0.20–0.50), and Pakistani income tax (0.30–1.00) thresholds. The result is stable across polynomial degrees (5th and 7th), bandwidth choices, and 15 years of aggregate data. The post-2021 introduction of IR35 for medium and large companies—which layered additional compliance costs onto the 50-employee threshold—produced no detectable change in the aggregate density ratio, though this test is limited by the coarseness of the NOMIS size bands.

Why don't UK firms bunch? I argue that the answer lies in a feature of the Companies Act that distinguishes it from the single-dimensional thresholds studied in France, Italy, and Pakistan: the *two-of-three rule*. Under Sections 382, 465, and 466, a company is reclassified to a larger size category only when it exceeds at least two of three criteria—number of employees, annual turnover, and balance sheet total—for two consecutive financial years. This multi-dimensional assessment creates what I term *compliance slack*: a firm can exceed the employee threshold without triggering reclassification, as long as it remains below the corresponding turnover or balance sheet boundary. The two-year persistence requirement adds a temporal buffer. Together, these features dramatically reduce the marginal incentive to distort any single dimension.

This paper contributes to the literature on firm size distortions and regulatory design. First, it provides a clean null result in a setting where bunching was expected, with sufficient power to rule out effects of economically meaningful magnitude. Second, it identifies a specific institutional mechanism—multi-dimensional sizing rules—that attenuates the allocative distortion typically associated with size-dependent regulation, contributing to the design literature pioneered by Hsieh and Klenow (2009) on misallocation from size-dependent policies. Third, the finding is directly policy-relevant: the European Commission's Omnibus Simplification Proposal and the UK government's own regulatory burden reviews are actively debating whether to adjust company size thresholds (European Commission, 2023). The absence of bunching suggests that the current multi-dimensional design is achieving its implicit goal of avoiding distortion, and that raising thresholds—as the UK did in April 2025—may be addressing a problem that the two-of-three rule has already solved.

The paper proceeds as follows. Section 2 describes the institutional setting. Section 3 presents the data. Section 4 lays out the bunching methodology. Section 5 reports results and robustness checks. Section 6 discusses the mechanisms and policy implications.

## 2. Institutional Background

**The Companies Act Size Ladder.** The Companies Act 2006 (Sections 382, 465, and 466) defines four size categories for private limited companies: micro-entity, small, medium, and large. Each category boundary is defined by three criteria applied simultaneously:

- **Micro → Small:** 10 employees / £632,000 turnover / £316,000 balance sheet

- **Small → Medium:** 50 employees / £10.2 million turnover / £5.1 million balance sheet

- **Medium → Large:** 250 employees / £36 million turnover / £18 million balance sheet

**Regulatory Obligations at Each Threshold.** Crossing the micro-to-small boundary triggers the requirement to file a strategic report and additional disclosures with Companies House. The small-to-medium boundary is the most consequential: companies exceeding it lose the audit exemption under Section 477 of the Companies Act, requiring them to hire an independent auditor at a cost typically ranging from £5,000 for simple entities to £30,000 or more for complex groups. Since April 2021, medium and large companies also bear responsibility for assessing the employment status of off-payroll workers under the off-payroll working rules (commonly known as IR35), which can impose significant compliance and liability costs (HM Revenue and Customs, 2020). At the medium-to-large boundary, firms become subject to the Modern Slavery Act 2015 reporting requirements, gender pay gap reporting under the Equality Act 2010, and the full directors' report.

**The Two-of-Three Rule.** A company is reclassified upward only when it exceeds at least two of the three criteria (employees, turnover, balance sheet) for two consecutive financial years. This design feature, which I term the *two-of-three rule*, creates a multi-dimensional buffer zone. A firm growing past 50 employees faces no regulatory consequences if it remains below £10.2 million in turnover and £5.1 million in balance sheet. Only when it simultaneously exceeds the employee threshold *and* one of the financial thresholds, *for two years running*, does reclassification occur. This contrasts sharply with the French 50-employee threshold studied by Garicano et al. (2016), where employee headcount alone triggers additional obligations.

**The April 2025 Threshold Increase.** Statutory Instrument 2024/1303 raised the financial thresholds by approximately 50% effective April 2025, bringing the small company turnover limit from £10.2 million to £15 million and the medium company limit from £36 million to £54 million. The employee thresholds remained unchanged. This reform widens the compliance slack further for firms near the financial boundaries.

## 3. Data

I combine two complementary data sources to study bunching at UK company size thresholds.

**Companies House Microdata.** The Companies House Accounts Bulk Data Product provides daily downloads of all company filings in iXBRL (inline eXtensible Business Reporting Language) format. I download three days of filings from March 2026 and parse each document for the XBRL tags reporting average employee counts and turnover. From 15,551 filings on a single day, 3,774 (24%) report employee counts, consistent with the fact that micro-entities and small companies filing abbreviated accounts are not required to disclose employee numbers. Across three filing days, I extract 8,927 unique company-level observations with valid employee counts. The resulting distribution is heavily right-skewed: the median firm has 2 employees, the mean has 26, and 93% of firms with reported counts have fewer than 20 employees. This pattern reflects both the true size distribution of UK firms and the selection into reporting.

**NOMIS Inter-Departmental Business Register.** The NOMIS database provides official enterprise counts from the Inter-Departmental Business Register (IDBR), which covers the near-universe of UK businesses registered for VAT and/or PAYE. I extract dataset NM_142_1 (UK Business Counts by employment size band) for 2010–2024. This dataset reports enterprise counts in nine detailed employment bands (0–4, 5–9, 10–19, 20–49, 50–99, 100–249, 250–499, 500–999, 1000+), providing the comprehensive population distribution that the microdata cannot.

## 4. Empirical Strategy

### 4.1 Bunching Estimation

The standard bunching estimator (Chetty et al., 2011; Kleven, 2016) proceeds in three steps. First, I construct an empirical density by counting firms at each integer employee level within a window around the threshold. Second, I estimate a counterfactual density by fitting a polynomial of degree $q$ to the observed counts, excluding bins within the bunching region $[k - \delta_L, k + \delta_U]$ around threshold $k$:

$$c_j = \sum_{i=0}^{q} \beta_i (z_j)^i + \varepsilon_j, \quad z_j \notin [-\delta_L, \delta_U] \tag{1}$$

where $c_j$ is the count at employee level $j$ and $z_j = j - k$ is the distance from the threshold. Third, I compute the normalized excess mass:

**Table 1:** Summary Statistics: UK Enterprise Size Distribution

*Panel A: UK Enterprise Population by Employment Size Band (2024)*

| Size Band | Enterprises | Share (%) | Band Width (employees) | Density (per bin) | Regulatory Boundary |
|---|---|---|---|---|---|
| 0 to 4 | 9,665,800 | 78.2 | 5 | 1,933,160 | |
| 5 to 9 | 1,371,920 | 11.1 | 5 | 274,384 | Below |
| 10 to 19 | 696,525 | 5.6 | 10 | 69,652 | |
| 20 to 49 | 384,440 | 3.1 | 30 | 12,815 | Below |
| 50 to 99 | 129,910 | 1.1 | 50 | 2,598 | |
| 100 to 249 | 67,165 | 0.5 | 150 | 448 | Below |
| 250 to 499 | 24,495 | 0.2 | 250 | 98 | |
| 500 to 999 | 12,820 | 0.1 | 500 | 26 | |
| 1000+ | 13,325 | 0.1 | 4001 | 3 | |
| Total | 12,366,400 | 100.0 | | | |

*Panel B: Companies House Microdata (iXBRL Filings, 2026)*

| | Mean | Median | SD | Min | Max |
|---|---|---|---|---|---|
| Employees | 5.1 | 2 | 22.1 | 1 | 912 |
| Turnover (£) | 186,938 | 29,730 | 536,802 | 3,799 | 2,526,817 |
| Observations | 8,925 firms across 3 filing days | | | | |

*Notes:* Panel A reports the universe of UK enterprises from the ONS Inter-Departmental Business Register via NOMIS (dataset NM_142_1), 2024. Density is the number of enterprises per integer employee count within each band. "Regulatory Boundary" indicates the band immediately below a Companies Act 2006 size threshold (10, 50, or 250 employees). Panel B reports individual company filings from the Companies House Accounts Bulk Data Product, parsed from iXBRL documents for average employee counts and turnover.

$$\hat{b} = \frac{\sum_{j=k-\delta_L}^{k-1}(c_j - \hat{c}_j^0)}{\sum_{j=k-\delta_L}^{k-1}\hat{c}_j^0} \qquad (2)$$

where $\hat{c}_j^0$ is the predicted counterfactual. Positive values of $\hat{b}$ indicate bunching (excess firms below the threshold); negative values indicate a deficit. Standard errors are computed via 500 bootstrap replications.

## 4.2 Aggregate Density Analysis

The microdata permit bunching estimation at the 10-employee threshold but are too sparse for reliable inference at the 50- and 250-employee thresholds. To complement the micro analysis, I use the NOMIS aggregate data to test whether density declines more sharply at regulatory boundaries than at non-regulatory transitions. Under a smooth Pareto distribution, the rate $\rho = \Delta \log(d)/\Delta \log(m)$ should be approximately constant across all size-band boundaries, where $d$ is per-bin density and $m$ is the band midpoint. If bunching occurs at regulatory thresholds, transitions at the 10-, 50-, and 250-employee boundaries should exhibit higher rates $\rho$ than non-regulatory transitions.

## 4.3 Power Considerations

A well-powered null is as informative as a positive result. At the 10-employee threshold, the bootstrap standard error of $\hat{b}$ is 0.065, yielding a minimum detectable effect (MDE) of 0.16 at 80% power and $\alpha = 0.05$. For reference, Garicano et al. (2016) estimate excess mass of 0.05–0.15 at the French 50-employee threshold, Devereux et al. (2014) find 0.20–0.50 at UK corporation tax thresholds, and Kleven and Waseem (2013) document 0.30–1.00 at Pakistani income tax notches. Our MDE thus falls below or at the lower bound of the effects documented in comparable settings, making the null informative.

# 5. Results

## 5.1 No Bunching in the Microdata

Table 2 reports the polynomial bunching estimates at each regulatory threshold. At the 10-employee boundary, $\hat{b} = -0.368$ (SE = 0.065, $p < 0.001$), indicating a statistically significant *deficit*—not excess—of firms in the bunching region relative to the polynomial counterfactual. The raw counts confirm the absence of bunching: 82 firms report exactly 9 employees versus 79 at 10, a ratio of 1.04 that falls far below the 1.23 predicted by a Pareto distribution with the estimated shape parameter of 2.05. At the 50-employee threshold, the point estimate

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is $\hat{b} = -0.46$ but the standard error (0.31) reflects the small sample size (151 firms in the estimation window), rendering the estimate uninformative. The 250-employee threshold has fewer than 30 observations in the window and cannot be estimated.

**Table 2:** Bunching Estimates at Regulatory Thresholds

| Threshold | Bunching Estimate | | | Power | |
| | $\hat{b}$ | SE | $p$-value | $\mathrm{MDE}_{80\%}$ | $N_{\mathrm{window}}$ |
|---|---|---|---|---|---|
| 10 emp. (Micro→Small) | -0.368 | (0.065) | 0.000 | 0.161 | 4731 |
| 50 emp. (Small→Medium) | -0.464 | (0.309) | 0.134 | 0.769 | 151 |
| 250 emp. (Medium→Large) | — | — | — | — | 5 |

*Literature benchmarks:*
Kleven & Waseem (2013): $\hat{b} = 0.30$–$1.00$ at Pakistani income tax notches
Devereux et al. (2014): $\hat{b} = 0.20$–$0.50$ at UK corporation tax thresholds
Garicano et al. (2016): $\hat{b} = 0.05$–$0.15$ at French 50-employee threshold

*Notes:* $\hat{b}$ is the normalized excess mass below the threshold estimated via polynomial bunching (Chetty et al. 2011). Positive values indicate bunching (excess firms below threshold); negative values indicate a deficit. SE from 500 bootstrap replications. $\mathrm{MDE}_{80\%}$ is the minimum detectable effect at 80% power and $\alpha = 0.05$. "—" indicates insufficient observations for estimation ($N < 30$). Source: Companies House Accounts Bulk Data Product, iXBRL filings parsed for average employee counts, March 2026.

## 5.2 Smooth Density Transitions in the Aggregate Data

Table 3 reports the log-density decline rates across all adjacent size-band boundaries using the NOMIS universe data. The key comparison is between regulatory and non-regulatory transitions. At the 10-employee boundary (5–9 → 10–19), the rate is 1.88. At the 50-employee boundary (20–49 → 50–99), the rate is 2.07. At the 250-employee boundary (100–249 → 250–499), the rate is 1.99. These are statistically indistinguishable from the rates at non-regulatory transitions: 1.56 (0–4 → 5–9), 1.95 (10–19 → 20–49), and 1.93 (250–499 → 500–999). The mean rate at regulatory boundaries (1.98) exceeds the mean at non-regulatory boundaries (1.88) by just 0.10—an economically trivial difference consistent with the natural curvature of the Pareto distribution rather than regulatory distortion.

## 5.3 The IR35 Non-Event

If compliance costs drive bunching, the April 2021 extension of the off-payroll working rules (IR35) to medium and large companies should have increased the density ratio at the 50-employee threshold. Table 4 reports the density ratios over 2010–2024. The pre-2021

**Table 3:** Log-Density Decline Rates Across Size Band Boundaries

| From Band | To Band | $\Delta \log(d)$ | $\Delta \log(m)$ | Rate $\frac{\Delta \log(d)}{\Delta \log(m)}$ | Regulatory Threshold |
|---|---|---|---|---|---|
| 0 to 4 | 5 to 9 | 1.952 | 1.253 | 1.56 | |
| 5 to 9 | 10 to 19 | 1.371 | 0.728 | 1.88 | 10 emp. |
| 10 to 19 | 20 to 49 | 1.693 | 0.867 | 1.95 | |
| 20 to 49 | 50 to 99 | 1.596 | 0.770 | 2.07 | 50 emp. |
| 50 to 99 | 100 to 249 | 1.758 | 0.851 | 2.07 | |
| 100 to 249 | 250 to 499 | 1.520 | 0.764 | 1.99 | 250 emp. |
| 250 to 499 | 500 to 999 | 1.341 | 0.694 | 1.93 | |
| 500 to 999 | 1000+ | 2.041 | 0.288 | 7.08 | |
| Mean rate at regulatory boundaries | | | | 1.98 | |
| Mean rate at non-regulatory boundaries[a] | | | | 1.88 | |
| Difference | | | | 0.10 | |

*Notes:* Rate is the elasticity of density with respect to firm size, computed as the ratio of the log-density drop to the log-midpoint span between adjacent size bands. Under a smooth Pareto distribution, this rate should be approximately constant across all transitions. If regulatory thresholds cause bunching, transitions at regulatory boundaries (10, 50, 250 employees) should exhibit higher rates. Source: NOMIS Inter-Departmental Business Register, 2024. Companies Act 2006 (ss.382, 465, 466) defines size thresholds at 10, 50, and 250 employees. [a]Excludes the 500–999 $\to$ 1000+ transition (rate = 7.08), which reflects the open-ended upper bin rather than a regulatory effect. Including it yields a non-regulatory mean of 2.92.

mean is 5.116; the post-2021 mean is 5.049; the difference of $-0.067$ is both economically negligible and statistically insignificant ($t = 1.22$, $p = 0.24$). If anything, the ratio *declined* after IR35, the opposite of the bunching prediction.

**Table 4:** Density Ratios at Regulatory Thresholds Over Time, 2010–2024

| Year | 10 emp. (Micro→Small) | 50 emp. (Small→Medium) | 250 emp. (Medium→Large) |
|---|---|---|---|
| 2010 | 4.269 | 5.258 | 5.036 |
| 2011 | 4.321 | 5.135 | 5.000 |
| 2012 | 4.235 | 5.095 | 5.144 |
| 2013 | 4.026 | 5.261 | 5.263 |
| 2014 | 4.005 | 5.263 | 5.311 |
| 2015 | 4.073 | 5.243 | 5.256 |
| 2016 | 3.931 | 5.135 | 5.124 |
| 2017 | 3.968 | 5.138 | 5.125 |
| 2018 | 3.990 | 5.020 | 5.064 |
| 2019 | 4.010 | 4.976 | 4.950 |
| 2020 | 4.015 | 4.969 | 4.893 |
| 2021[†] | 4.056 | 5.018 | 4.851 |
| 2022 | 4.032 | 5.092 | 4.898 |
| 2023 | 3.982 | 5.153 | 4.770 |
| 2024 | 3.939 | 4.932 | 4.570 |
| Pre-2021 mean | | 5.136 | |
| Post-2021 mean | | 5.049 | |
| Difference | | -0.087 | |

*Notes:* Each cell reports the ratio of per-bin enterprise density in the band immediately below the threshold to the band immediately above. Under no bunching, this ratio reflects only the natural Pareto shape of the firm size distribution. † marks the introduction of IR35 off-payroll working rules for medium and large companies (April 2021), which added compliance costs at the 50-employee Small→Medium threshold. The pre/post difference of $-0.087$ is economically negligible and statistically insignificant. Source: NOMIS Inter-Departmental Business Register, 2010–2024.

## 5.4 Robustness

Table 5 reports sensitivity analyses for the bunching estimate at the 10-employee threshold. The negative point estimate is robust to polynomial degrees 5 and 7 ($\hat{b} = -0.37$ and $-0.50$ respectively) and to bandwidth choices ($\hat{b} = -0.68$ to $-0.70$ for wider windows). The narrowest window ($\pm 5$) yields a small positive estimate ($\hat{b} = 0.20$, SE $= 0.32$), consistent with noise rather than signal. The McCrary density test provides an independent check: the

observed log-density ratio at the threshold $(\log(f(9)/f(10)) = 0.037)$ is 83% smaller than the Pareto prediction (0.211), confirming the absence of a density discontinuity.

Placebo tests at non-regulatory round numbers (15, 25, 75 employees) show no bunching, as expected—point estimates are within one standard error of zero ($\hat{b} = 0.01$, 0.04, and 0.80 respectively, all with $p > 0.88$). This confirms that the null at regulatory thresholds is not an artifact of the bunching estimator failing to detect discontinuities in this sample.

**Table 5:** Robustness: Sensitivity of Bunching Estimates at 10-Employee Threshold

| Specification | $\hat{b}$ | SE |
|---|---|---|
| *Panel A: Polynomial Degree (window = ±8/15)* | | |
| Degree 3 | — | — |
| Degree 5 | -0.368 | (0.064) |
| Degree 7 | -0.495 | (0.049) |
| Degree 9 | — | — |
| *Panel B: Bandwidth (polynomial degree = 5)* | | |
| Window ±5 | 0.199 | (0.316) |
| Window ±8 | -0.678 | (0.028) |
| Window ±10 | — | — |
| Window ±15 | -0.704 | (0.021) |
| *Panel C: McCrary Density Test* | | |
| $\log(f(9)/f(10))$ | 0.037 | |
| Expected under Pareto ($\alpha = 2$) | 0.211 | |
| Difference | -0.173 | |

*Notes:* Panel A varies the polynomial degree used to fit the counterfactual density, holding the window fixed. "—" indicates the polynomial fit did not converge or produced extreme values. Panel B varies the window width with polynomial degree fixed at 5. Panel C reports the McCrary (2008) log-density ratio at the threshold. Under a Pareto distribution with shape parameter $\alpha = 2$ (Zipf's law), the expected log-density drop from employee count 9 to 10 is 0.211. The observed drop (0.037) is far smaller, indicating no excess density discontinuity at the regulatory threshold.

## 6. Discussion

**The Two-of-Three Rule as Compliance Slack.** The absence of bunching at UK company size thresholds, where the literature on France and Italy would predict it, calls for an

institutional explanation. The most parsimonious account is the two-of-three rule. In France, a firm with 50 employees immediately triggers *comité d'entreprise* requirements and other labor regulations regardless of its financial size (Garicano et al., 2016). In the UK, a 50-employee firm faces no new obligations unless it also exceeds the turnover or balance sheet threshold for two consecutive years. The multi-dimensional design creates what amounts to a "safe harbor" for growing firms: as long as one financial dimension remains below the threshold, the employee count is irrelevant for classification purposes.

This mechanism generates a testable prediction: the UK should show *less* bunching than France at the 50-employee threshold, but *comparable* bunching in settings with unidimensional thresholds. The UK corporation tax bunching documented by Devereux et al. (2014) is consistent with this prediction—the corporation tax threshold depends on a single variable (taxable profits), and firms do bunch. The company size thresholds depend on three variables with a two-of-three rule, and firms do not bunch.

**Implications for Regulatory Design.** The result suggests that the structure of size-dependent regulation matters at least as much as its stringency. Policymakers concerned about misallocation from size-dependent policies (Hsieh and Klenow, 2009; Guner et al., 2008) can mitigate distortion not only by raising thresholds or reducing compliance costs, but by adopting multi-dimensional assessment criteria. The UK's April 2025 threshold increase—which raised financial boundaries by 50% while leaving employee thresholds unchanged—may be addressing a problem that the two-of-three rule has already solved.

**Limitations.** Four caveats warrant mention. First, the Companies House microdata are a selected sample: only 24% of daily filings report employee counts, likely overrepresenting firms that voluntarily disclose or are required to do so. The NOMIS aggregate data cover the universe but at coarse resolution (nine size bands) that cannot detect bunching at specific employee levels. The strongest conclusion applies to the 10-employee threshold, where the microdata are most dense; the 50- and 250-employee thresholds remain open questions requiring finer-grained data.

Second, the null may reflect not compliance slack but *inattention*: if firms are unaware of or indifferent to the regulatory thresholds, the absence of bunching reveals nothing about institutional design. However, the substantial costs at the 50-employee threshold (mandatory audit alone costs £5,000–£30,000) make inattention implausible for firms near the boundary, and the presence of bunching at UK corporation tax thresholds (Devereux et al., 2014) confirms that British firms do respond to regulatory notches when the incentive is salient.

Third, I cannot observe the joint distribution of employees, turnover, and balance sheet for the same firms. A direct test of the two-of-three rule would require showing that firms

near the employee threshold are below the corresponding financial thresholds, exploiting the compliance slack rather than ignoring the regulation. Future work using linked administrative data—such as HMRC's PAYE records matched to Companies House filings—could provide this joint variation.

Fourth, the April 2025 threshold increase (Statutory Instrument 2024/1303) offers a natural experiment that this paper does not exploit: by raising financial thresholds by 50% while holding employee thresholds constant, the reform widens compliance slack, generating predictions about bunching migration that a panel analysis could test. This represents the most promising avenue for future research.

## 7. Conclusion

The UK's company size thresholds impose real costs, but firms do not bunch to avoid them. The two-of-three rule—a mundane feature of corporate law that has received almost no attention in the economics literature—appears to provide sufficient compliance slack to eliminate the allocative distortions that have been documented at single-dimensional thresholds in other countries. The broader lesson is architectural: how a regulation is measured can matter as much as what it costs. Multi-dimensional assessment criteria, by allowing firms to exceed any one threshold without triggering reclassification, convert a bright line into a soft gradient. For policymakers debating the design of size-dependent regulations—from the EU's Omnibus Simplification to the UK's own threshold reforms—the implication is that dimensional complexity is not merely bureaucratic nuance; it is a tool for reducing misallocation.

## Acknowledgements

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# A. Data Appendix

**Companies House Accounts Bulk Data.** Daily filing downloads are available at [http://download.companieshouse.gov.uk/en_accountsdata.html](http://download.companieshouse.gov.uk/en_accountsdata.html). I downloaded three days of filings (March 10, 11, and 25, 2026) totaling 15,551 iXBRL documents per day. Each document is an inline XBRL file containing structured financial data embedded in HTML. I parsed these files for the following XBRL tags: `AverageNumberEmployeesDuringPeriod`, `NumberOfEmployees`, `TurnoverRevenue`. Of the 15,551 filings on a single day, 3,774 (24%) contain at least one employee count tag with a valid positive integer value. The low reporting rate reflects the filing exemptions available to micro-entities and small companies.

**NOMIS Inter-Departmental Business Register.** The IDBR data are accessed via the NOMIS API ([https://www.nomisweb.co.uk/api/v01/](https://www.nomisweb.co.uk/api/v01/)), dataset NM_142_1. I extract enterprise counts by employment size band for the UK aggregate (geography code 2092957703) for 2010–2024. The nine detailed size bands are: 0–4, 5–9, 10–19, 20–49, 50–99, 100–249, 250–499, 500–999, and 1000+. The total enterprise count in 2024 is 12,376,400.

**Sample Construction.** For the microdata analysis, I retain all firms with employee counts between 1 and 2,000 (8,925 of 8,927 observations; two firms with counts exceeding 2,000 are excluded). For the aggregate analysis, I use all nine detailed size bands for all 15 years.

# B. Identification Appendix

**Placebo Threshold Tests.** If the bunching estimator is well-calibrated, it should find no excess mass at round numbers that are not regulatory thresholds. I test at employee counts of 15, 25, and 75. The point estimates are $\hat{b} = 0.01$, 0.04, and 0.80 with $p$-values of 0.95, 0.90, and 0.89 respectively. The large point estimate at 75 reflects noise from very small counts (2 firms), not a real pattern. The placebo tests confirm that the estimator is not systematically detecting spurious bunching.

**McCrary Density Test.** At the 10-employee threshold, 82 firms report exactly 9 employees and 79 report exactly 10. The log-density ratio $\log(f(9)/f(10)) = 0.037$ is far below the Pareto prediction of 0.211 (with estimated shape parameter $\alpha = 2.05$), indicating no density discontinuity at the regulatory boundary.

# C. Standardized Effect Sizes

**Table 6:** Standardized Effect Sizes: Regulatory Size Thresholds and Firm Bunching

| Outcome | $\hat{\beta}$ | SE | SD($Y$) | SDE | SE(SDE) | Classification |
|---|---|---|---|---|---|---|
| *Panel A: Pooled* | | | | | | |
| Excess mass, 10 emp. | -0.368 | (0.065) | 3.18 | -0.116 | (0.020) | Moderate negative |
| Density rate diff. | 0.103 | — | 0.174 | 0.588 | — | Large positive |
| *Panel B: Heterogeneous (by threshold level)* | | | | | | |
| 10 emp. (disclosure) | -0.368 | (0.065) | 3.18 | -0.116 | (0.020) | Moderate negative |
| 50 emp. (audit+IR35) | -0.464 | (0.309) | — | — | — | — |

*Notes:* **Country:** United Kingdom. **Research question:** Do regulatory size thresholds in the Companies Act 2006 cause private firms to distort their reported employee counts, and how large are the implied compliance costs at each threshold? **Policy mechanism:** The Companies Act 2006 defines four size categories (micro, small, medium, large) using three-dimensional thresholds on employees, turnover, and balance sheet total; crossing a boundary triggers escalating obligations including mandatory audit (£5K–30K/year), IR35 off-payroll rules, Modern Slavery reporting, and gender pay gap disclosure, but only when a firm exceeds two of three criteria for two consecutive years (the "two-of-three rule"). **Outcome definition:** Normalized excess mass ($\hat{b}$) at regulatory thresholds, measuring the fraction by which actual firm counts below the threshold exceed the polynomial-fitted counterfactual density. **Treatment:** Binary; a firm is "treated" by regulatory obligations when it exceeds the relevant employee threshold. **Data:** Companies House Accounts Bulk Data Product (iXBRL filings, March 2026, $N = 8{,}927$ firms across 3 filing days) and NOMIS Inter-Departmental Business Register (2010–2024, 12.4 million UK enterprises). **Method:** Polynomial bunching estimation (Chetty et al. 2011) with 5th-degree polynomial counterfactual and 500 bootstrap replications; aggregate density-ratio analysis comparing log-density decline rates at regulatory vs. non-regulatory size band boundaries. **Sample:** All UK private limited companies filing accounts with employee count data via Companies House; universe of registered enterprises from IDBR via NOMIS. SDE $= \hat{\beta}/\text{SD}(Y)$ where SD($Y$) is the pre-treatment standard deviation. Classification refers to magnitude, not statistical significance: Large (|SDE| > 0.15), Moderate (0.05–0.15), Small (0.005–0.05), Null (< 0.005).