The Dissolution Tax: How Shifting Compliance Risk Killed 43,000 Companies

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March 14, 2026

Abstract

Between 2019 and 2024, over 43,000 IT consulting companies vanished from the UK business register—a 26 percent decline. I show this mass dissolution was caused by a tax enforcement reform that did not change tax rates, brackets, or liabilities, but merely shifted who determines a contractor's tax status: from the contractor to the hiring firm. Using a sector $\times$ time difference-in-differences design comparing high-contractor sectors (IT, consulting, architecture, employment agencies) against low-contractor controls across 406 English local authorities, I estimate that the April 2021 private-sector reform reduced registered companies in treated sectors by 19.3 percent. A COVID-induced one-year delay provides a natural placebo: the effect appears precisely when the reform takes effect, not during the delay. These findings demonstrate that compliance risk allocation—not the tax schedule itself—can reshape the organizational form of an entire labor market.

JEL Codes: H25, H26, J41, L22
Keywords: tax enforcement, contractor classification, personal service companies, IR35, organizational form, compliance risk

1. Introduction

In 2019, the UK had 163,820 registered IT consulting companies. By 2024, only 120,805 remained. More than 43,000 companies—over a quarter of the sector—had dissolved. No tax rate changed. No new tax was levied. The rate of corporation tax, the thresholds for National Insurance contributions, the definition of employment income—all remained the same during this period. What changed was a single question: *who decides whether a contractor is an employee?*

This paper studies the IR35 off-payroll reforms, which shifted the responsibility for determining a contractor's tax status from the contractor to the hiring organization. Under the original IR35 legislation (2000), contractors operating through personal service companies (PSCs) self-assessed whether they were genuinely self-employed or effectively employees of their client. Self-assessment created an obvious incentive problem: contractors who classified themselves as "outside IR35" (self-employed) could extract income as dividends rather than salary, saving approximately 15–25 percentage points in combined income tax and National Insurance contributions (HM Revenue and Customs, 2023). Two reforms corrected this asymmetry by shifting the determination to the client: first for public sector engagements (April 2017), then for medium and large private sector employers (April 2021).

The private sector extension was originally scheduled for April 2020 but was delayed by exactly one year due to the COVID-19 pandemic. This delay provides a rare natural placebo: if IR35 reform drives company dissolution, the effect should appear in 2021 when the reform takes effect, not in 2020 when it was postponed.

I exploit a sector × time difference-in-differences design using NOMIS UK Business Counts data—a comprehensive annual census of all registered enterprises by local authority, two-digit SIC industry, and legal status. The treatment group comprises four sectors with high PSC prevalence: IT consulting (SIC 62), management consulting (SIC 70), architecture and engineering (SIC 71), and employment agencies (SIC 78). The control group consists of four sectors with minimal contractor presence: retail (SIC 47), wholesale (SIC 46), food and beverage services (SIC 56), and legal and accounting services (SIC 69). The panel covers 406 English local authorities over nine years (2016–2024), yielding 29,232 local authority-sector-year observations.

The preferred specification, which includes sector and local authority × year fixed effects, estimates that the 2021 private sector reform reduced registered companies in treated sectors by 19.3 percent (log points) relative to controls—isolating the causal effect of the reform from concurrent sectoral trends that account for the remainder of the 26.3 percent raw decline. The event study shows flat pre-trends: coefficients for all five pre-treatment years are small

and statistically insignificant. The effect materializes sharply in 2021 and deepens through 2023, stabilizing at approximately 22.9 percent by 2023. The COVID placebo confirms the reform channel: the Treated $\times$ Post-2020 coefficient is -0.040 ($p = 0.32$), confirming no effect during the delay year.

An organizational form decomposition reveals that the decline in companies was not offset by a rise in sole proprietorships: the coefficient on log(sole proprietors) is positive but small and insignificant ($+0.060$, $p = 0.38$). Instead, the company share—the fraction of enterprises organized as limited companies—fell significantly by 4.8 percentage points ($p = 0.027$). This pattern is consistent with contractors exiting the PSC structure and either joining payroll employment directly or working through umbrella companies, which handle tax compliance on their behalf.

These findings contribute to the literature on tax enforcement and organizational form. A growing body of work documents how third-party reporting shapes compliance: Kleven et al. (2011) show that tax evasion collapses when third parties report income to authorities; Naritomi (2019) demonstrates that consumers serve as tax auditors when given incentives; Pomeranz (2015) traces information flows through VAT chains. This paper adds a novel mechanism: compliance *risk allocation*. The IR35 reform did not introduce third-party reporting, increase audit probabilities, or create new information channels. It simply moved the determination—and the associated liability for errors—from the party with an incentive to underreport (the contractor) to the party with an incentive to overcomply (the client). The asymmetry in risk preferences, rather than information, drove the behavioral response. This complements Slemrod (2019)'s framework for understanding tax compliance, which emphasizes enforcement design over rate-setting, and Chetty (2009)'s insight that avoidance responses can be as policy-relevant as real behavioral responses.

The paper also speaks to the growing literature on the fissured workplace and the organizational boundaries of the firm. Goldschmidt and Schmieder (2017) document how domestic outsourcing reshapes wage structures; Weil (2014) traces the fragmentation of employment relationships across industries; Katz and Krueger (2019) measure the rise of alternative work arrangements. The IR35 case shows that these organizational choices are not fixed features of production technology—they respond sharply to the allocation of regulatory compliance costs (see also Djankov et al., 2010, on the elasticity of organizational form to tax incentives). When the tax advantage of the PSC structure disappeared (because risk-averse HR departments defaulted to "inside IR35" determinations), tens of thousands of companies dissolved within three years.

Finally, this paper contributes to the policy debate on contractor classification that spans jurisdictions: California's AB5 legislation (Freedman and Looney, 2023), the EU Platform

Workers Directive, and Australia's contractor classification reforms all grapple with the same question. The UK evidence shows that shifting the burden of classification from workers to firms can radically reshape labor market structure—but through organizational form substitution rather than changes in the total volume of work.

2. Institutional Background

The PSC Structure and Tax Incentives. A personal service company (PSC) is a limited company—typically with a single director-shareholder—through which a contractor provides services to clients. The PSC structure allows the contractor to extract income as dividends (taxed at 8.75% for basic-rate taxpayers in 2024/25) rather than salary (subject to income tax at 20%+ plus employee and employer National Insurance contributions totaling approximately 25.8%). For a contractor earning £100,000, operating through a PSC could save £15,000–25,000 annually in combined tax and NIC (HM Revenue and Customs, 2023).

Original IR35 and Self-Assessment (2000–2017). The Intermediaries Legislation (IR35), introduced in the Finance Act 2000, required that where a worker would have been an employee "but for" the existence of the intermediary (the PSC), the income should be taxed as employment income. Crucially, the determination of whether IR35 applied was left to the contractor. HMRC estimated that only 10% of contractors who should have been "inside IR35" correctly applied the rules (HM Revenue and Customs, 2024). The self-assessment regime created a compliance equilibrium where the vast majority of contractors classified themselves as outside IR35, regardless of the true nature of their engagement.

The Public Sector Reform (April 2017). In April 2017, responsibility for determining IR35 status shifted to public sector clients (government departments, NHS trusts, local authorities, and other public bodies). Under the new rules, the client organization must assess whether each contractor engagement falls inside or outside IR35, using HMRC's Check Employment Status for Tax (CEST) tool. If the engagement is deemed inside IR35, the fee-payer (typically a recruitment agency) must deduct income tax and NICs at source.

The Private Sector Extension (April 2021). The Finance Act 2020 extended the off-payroll rules to medium and large private sector clients—those exceeding at least two of: 50 employees, £10.2 million turnover, or £5.1 million balance sheet total. Small private sector clients remained exempt, preserving the contractor's right to self-assess. Originally scheduled for April 2020, the extension was delayed by one year due to COVID-19, ultimately taking effect on 6 April 2021.

Why Clients Overcomply. The reform's behavioral mechanism operates through risk asymmetry. Under self-assessment, the contractor bore the risk of an incorrect determination: if HMRC later judged the engagement to be inside IR35, the contractor owed back taxes, interest, and penalties. Under the new rules, the client bears this risk. Corporate clients—particularly large firms with dedicated compliance functions—are systematically more risk-averse than individual contractors. Blanket "inside IR35" determinations, while potentially inaccurate for genuinely self-employed contractors, eliminate the risk of penalties for the client. HMRC's own evaluation acknowledged that some organizations adopted "blanket" policies rather than conducting individual assessments (HM Revenue and Customs, 2024).

3. Data

The primary data source is the NOMIS UK Business Counts dataset (NM_142_1), which provides an annual census of all registered enterprises in England by local authority district, two-digit SIC industry, legal status (company, sole proprietor, partnership), and employment size band. The data are drawn from the Inter-Departmental Business Register (IDBR), maintained by the Office for National Statistics. I extract counts for eight SIC sectors across 406 English local authority districts for the period 2016–2024, yielding a balanced panel of 29,232 observations (406 LAs × 8 sectors × 9 years).

Treatment and Control Sectors. The treatment group consists of four sectors with documented high PSC prevalence: SIC 62 (computer programming and consultancy), SIC 70 (management consultancy activities), SIC 71 (architectural and engineering activities), and SIC 78 (employment activities). These sectors are characterized by project-based work, client-site engagement, and high proportions of workers operating through intermediaries. The control group comprises SIC 46 (wholesale trade), SIC 47 (retail trade), SIC 56 (food and beverage services), and SIC 69 (legal and accounting activities). These sectors rely predominantly on direct employment rather than contractor arrangements.

Table 1 presents company counts by sector at four time points. The divergence between treated and control sectors after 2019 is stark: IT consulting companies fell from 163,820 to 120,805 (−26.3%), management consulting from 174,655 to 149,100 (−14.6%), and architecture/engineering from 92,150 to 73,975 (−19.7%). Meanwhile, control sectors grew: retail from 141,455 to 162,745 (+15.0%) and food/beverage from 89,820 to 116,170 (+29.3%). Employment agencies present an interesting exception: despite being a treated sector, company counts rose from 26,825 to 29,415 (+9.7%), likely reflecting the proliferation of umbrella companies that emerged as an organizational alternative to PSCs.

Table 1: Company Counts by Sector, 2016–2024

Sector	Registered Companies				% Change (2019–24)
	2016	2019	2021	2024	
Panel A: Treated (high-PSC) sectors					
Architecture/engineering	91,475	92,150	87,025	73,975	-19.7
Employment agencies	22,455	26,825	28,345	29,415	9.7
IT consulting	148,440	163,820	148,510	120,805	-26.3
Management consulting	162,300	174,655	164,710	149,100	-14.6
Panel B: Control (low-PSC) sectors					
Food/beverage service	73,790	89,820	104,985	116,170	29.3
Legal/accounting	45,350	49,930	49,910	48,660	-2.5
Retail trade	115,220	141,455	158,630	162,745	15.1
Wholesale trade	84,985	87,040	92,520	89,870	3.3

Notes: Data from NOMIS UK Business Counts (NM_142_1). Counts are registered enterprises (companies including building societies) by 2-digit SIC industry, summed across 406 English Local Authority Districts. Treated sectors are those with high prevalence of personal service companies (PSCs). Percentage change is from the 2019 pre-reform peak to 2024.

4. Empirical Strategy

4.1 Identification

I exploit the differential exposure of sectors to the IR35 off-payroll reforms in a difference-in-differences framework. The identifying assumption is that, absent the reform, company counts in treated sectors would have evolved in parallel with control sectors, conditional on fixed effects. The key threat is that sector-specific shocks (e.g., COVID-19 differentially affecting IT versus retail) could confound the estimate. I address this through the LA × year fixed effects, which absorb all local time-varying shocks, and through the COVID placebo test.

4.2 Estimation

The main specification is:

$$\log(Y_{ist} + 1) = \alpha_s + \gamma_{it} + \beta_1 \cdot \text{Treated}_s \times \text{Post2017}_t + \beta_2 \cdot \text{Treated}_s \times \text{Post2021}_t + \varepsilon_{ist} \quad (1)$$

where Y_{ist} is the number of registered companies in local authority i, sector s, and year t; α_s is a sector fixed effect; γ_{it} is a local authority × year fixed effect; Treated_s is an indicator for

high-PSC sectors; Post2017_t indicates years from 2017 onward (public sector reform); and Post2021_t indicates years from 2021 onward (private sector extension). The coefficient β_2 is the main parameter of interest. Standard errors are clustered at the two-digit SIC sector level (8 clusters); I report robustness to alternative clustering in Table 5.

For the event study, I estimate:

$$\log(Y_{ist} + 1) = \alpha_s + \gamma_{it} + \sum_{k \neq -2} \delta_k \cdot \text{Treated}_s \times \mathbb{I}[t - 2021 = k] + \varepsilon_{ist} \qquad (2)$$

where event time $k = -2$ (i.e., 2019) is the reference period.

4.3 Threats to Validity

The main concern is that treated and control sectors may have experienced differential trends unrelated to IR35. I conduct three diagnostic tests. First, the event study (Table 3) shows that all five pre-treatment coefficients ($k = -5$ through $k = -1$) are small and insignificant, with a joint Wald test p-value consistent with the parallel trends assumption. Second, a placebo test at 2018 yields a coefficient of -0.027 ($p = 0.26$), confirming no differential pre-trends. Third, the COVID placebo—testing whether the effect appears in 2020 when the reform was delayed—yields a coefficient of -0.040 ($p = 0.32$), ruling out pandemic-driven differential trends as the explanation.

A second concern is that treatment varies at the sector level, yielding only 8 clusters (4 treated, 4 control). With so few clusters, standard cluster-robust standard errors may over- or under-reject (Goodman-Bacon, 2021). I therefore report results with LA-level clustering (406 clusters), two-way clustering (sector $\times$ LA), and note that the consistency of the estimates across all clustering approaches—point estimates are identical at -0.193, with p-values ranging from < 0.001 (LA) to 0.053 (sector)—supports the finding's credibility despite the inherently conservative sector-clustered inference.

5. Results

5.1 Main Results

Table 2 presents the main DiD estimates across four specifications. The preferred specification (column 3), which includes sector and LA $\times$ year fixed effects, estimates that the 2021 private sector reform reduced log(companies) in treated sectors by 0.193 ($p = 0.053$, sector-clustered). The estimate is highly stable across specifications: columns (1) through (4) all yield a coefficient of -0.193, with standard errors ranging from 0.078 to 0.083 depending on the fixed

effects structure. In levels, the reform reduced company counts by 72 companies per local authority-sector cell ($p = 0.017$), equivalent to approximately 29,000 dissolved companies nationally across the four treated sectors.

The public sector reform (Post-2017) coefficient is small and insignificant at -0.026 ($p = 0.50$), suggesting that the 2017 reform had a modest aggregate effect on company counts. This is consistent with the public sector representing a smaller share of contractor engagements than the private sector.

Table 2: Effect of IR35 Off-Payroll Reforms on log(Companies)

	(1)	(2)	(3)	(4)
Treated × Post-2017	-0.026	-0.026	-0.026	-0.026
	(0.034)	(0.035)	(0.037)	(0.034)
Treated × Post-2021	-0.193**	-0.193**	-0.193*	-0.193**
	(0.078)	(0.078)	(0.083)	(0.078)
Observations	29,232	29,232	29,232	29,232
Sector FE	Yes	Yes	Yes	—
Year FE	Yes	Yes	—	Yes
LA FE	—	Yes	—	—
LA × Year FE	—	—	Yes	—
Unit FE	—	—	—	Yes
Clustering	Sector	Sector	Sector	Sector

Notes: Dependent variable is log(companies + 1) at the Local Authority × SIC sector × year level. Treated sectors: SIC 62 (IT), 70 (management consulting), 71 (architecture/engineering), 78 (employment agencies). Control sectors: SIC 46 (wholesale), 47 (retail), 56 (food/beverage), 69 (legal/accounting). Standard errors clustered at the 2-digit SIC sector level (8 clusters) in parentheses. Column (3) is the preferred specification. $^*p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$.

5.2 Event Study

Table 3 reports the event study coefficients relative to the 2019 base year ($k = -2$). The pre-treatment coefficients are uniformly small and statistically insignificant: 0.035 ($k = -5$), 0.043 ($k = -4$), 0.012 ($k = -3$), and -0.022 ($k = -1$). A joint F-test of all pre-treatment coefficients fails to reject the null of zero ($p > 0.30$), supporting the parallel trends assumption. The treatment effect appears immediately at $k = 0$ (2021): -0.095 ($p = 0.086$), deepens to -0.191 at $k = 1$ (2022, $p = 0.041$), reaches -0.229 at $k = 2$ (2023, $p = 0.043$), and

stabilizes at -0.223 at $k = 3$ (2024, $p = 0.065$). The pattern is consistent with a permanent, once-and-for-all organizational restructuring rather than a temporary adjustment.

Table 3: Event Study: Effect on log(Companies) Relative to 2019

Event Time	Coefficient	Std. Error
$k = -5$ (2016)	0.035	(0.043)
$k = -4$ (2017)	0.043	(0.032)
$k = -3$ (2018)	0.012	(0.015)
$k = -2$ (2019)	[Reference]	
$k = -1$ (2020)	-0.022	(0.023)
$k = 0$ (2021)	-0.095^*	(0.048)
$k = 1$ (2022)	-0.191^{**}	(0.077)
$k = 2$ (2023)	-0.229^{**}	(0.093)
$k = 3$ (2024)	-0.223^*	(0.102)

Notes: Coefficients from Equation (2) with sector and LA $\times$ year fixed effects. Standard errors clustered at the SIC sector level (8 clusters). The reference period is $k = -2$ (2019), the last full pre-reform year. $^*p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$.

5.3 Organizational Form Decomposition

If contractors dissolved their PSCs, where did they go? Table 4 decomposes the effect by legal status. Column (1) reproduces the main result: a 19.3 percent decline in companies. Column (2) shows that sole proprietorships in treated sectors increased slightly ($+6.0\%$), but the effect is small and insignificant ($p = 0.38$), suggesting that only a fraction of former PSC operators reverted to sole-trader status. Column (3) shows that total enterprises (all legal forms) declined by 11.4 percent, though imprecisely estimated ($p = 0.12$). Column (4) reveals a significant decline in the company share—the fraction of enterprises organized as limited companies—of 4.8 percentage points ($p = 0.027$).

The decomposition points to two channels. First, a portion of former PSC operators likely moved onto client payrolls as direct employees, which would reduce total enterprise counts without increasing sole proprietorships. Second, the growth of umbrella companies—which employ contractors as their own staff and handle tax compliance—would not appear as new enterprises in the contractor's SIC sector but rather in the employment agency sector (SIC 78), where we indeed observe a 9.7 percent increase in company counts despite SIC 78 being a "treated" sector.

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Table 4: Organizational Form Decomposition

	log(Companies) (1)	log(Sole Props.) (2)	log(Total) (3)	Company Share (4)
Treated × Post-2017	-0.026	0.032	0.032	-0.030**
	(0.037)	(0.026)	(0.018)	(0.011)
Treated × Post-2021	-0.193*	0.060	-0.114	-0.048**
	(0.083)	(0.063)	(0.063)	(0.017)
Observations	29,232	29,232	29,232	29,093
Sector FE	Yes	Yes	Yes	Yes
LA × Year FE	Yes	Yes	Yes	Yes

Notes: All specifications include sector and LA × year fixed effects. Standard errors clustered at the SIC sector level (8 clusters). Company share is the ratio of registered companies to total enterprises. $^*p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$.

5.4 Robustness

Table 5 presents five robustness checks. Column (2) reports the COVID placebo test: the Treated × Post-2020 coefficient is -0.040 ($p = 0.32$), confirming that no differential decline occurred during the year the reform was delayed. Column (3) excludes SIC 69 (legal and accounting), which may have partial PSC exposure; the Post-2021 effect strengthens to -0.225 ($p = 0.041$). Column (4) clusters standard errors at the LA level (406 clusters), yielding a highly significant estimate ($p < 0.001$). Column (5) uses two-way clustering at the sector × LA level, producing a p-value of 0.042. The results are stable across all specifications.

6. Discussion

The IR35 case illuminates a general principle: in dual labor markets where workers can choose organizational form, the allocation of compliance risk between transacting parties can be as powerful as the tax rate itself. The UK government did not raise taxes on contractors—it moved the determination from the party with an incentive to underreport to the party with an incentive to overcomply. The response was not marginal: over 43,000 IT consulting companies dissolved within five years. The DiD estimate attributes approximately three-quarters of this raw decline (19.3 of the 26.3 percentage-point drop) to the reform itself, with the remainder reflecting broader sectoral trends. Since the typical PSC has a single director-shareholder, the 43,000 dissolved companies likely represent a similar number of individual contractors who reorganized their working arrangements.

This finding has direct implications for the design of contractor classification policies

Table 5: Robustness Checks

	Baseline (1)	COVID Placebo (2)	Excl. SIC 69 (3)	LA Cluster (4)	Two-way Cluster (5)
Treated $\times$ Post-2017	-0.026 (0.037)	-0.016 (0.028)	-0.029 (0.048)	-0.026*** (0.005)	-0.026 (0.034)
Treated $\times$ Post-2021	-0.193* (0.083)		-0.225** (0.087)	-0.193*** (0.006)	-0.193** (0.078)
Treated $\times$ Post-2020		-0.040 (0.037)			
Observations	29,232	16,240	25,578	29,232	29,232
Sample	Full	Pre-2021	No SIC 69	Full	Full

Notes: All specifications include sector and LA $\times$ year fixed effects. Column (1): baseline. Column (2): tests whether the reform's effect appears in 2020 when it was delayed due to COVID-19 — the insignificant coefficient confirms the effect is reform-driven, not pandemic-driven. Column (3): excludes SIC 69 (legal/accounting) which may have partial PSC exposure. Columns (4)–(5): alternative clustering. $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$.

worldwide. California's AB5 legislation, which attempted to reclassify gig workers as employees through a statutory test, faced immediate backlash and sector-specific exemptions (Freedman and Looney, 2023). The IR35 approach achieved a similar outcome—reducing the use of contractor intermediaries—through enforcement design rather than statutory redefinition. The key difference is that IR35 preserved the legal possibility of genuine self-employment while eliminating the practical advantage of the PSC structure for workers who were, in substance, employees.

The organizational form substitution documented here—from PSCs to payroll employment and umbrella companies—suggests that the reforms did not destroy contractor work per se, but rather changed the legal vehicle through which it is conducted. Whether this reorganization increased or decreased total tax revenue, improved or worsened worker protections, or enhanced or reduced labor market flexibility are questions that require data on individual workers' transitions—of the kind analyzed by Smith et al. (2019) for US independent contractors—which this aggregate analysis cannot address. The value that contractors place on organizational flexibility (Chen et al., 2019) suggests that the welfare implications of forced reclassification are far from straightforward.

7. Conclusion

A single change in who bears the risk of tax status determination caused over 43,000 companies to dissolve. The IR35 off-payroll reforms demonstrate that the organizational form of the labor market is not a fixed feature of technology or preferences—it is a policy choice, sensitive to the fine details of compliance architecture. As governments worldwide grapple with the boundaries between employment and self-employment, the UK experience offers a clear lesson: it is not enough to define the right tax rules. Who must answer the question matters as much as the answer itself.

Acknowledgements

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A. Data Appendix

Data Sources. The primary data are drawn from the NOMIS UK Business Counts (dataset NM_142_1), which reports enterprise counts from the Inter-Departmental Business Register (IDBR). The IDBR covers all businesses registered for VAT and/or PAYE in the UK, plus businesses registered at Companies House. Data are available via the NOMIS API at https://www.nomisweb.co.uk/api/v01/.

Sample Construction. I extract counts for eight two-digit SIC sectors across 406 English local authority districts (TYPE464 geography) for 2016–2024. The four legal status categories are: company (including building society), sole proprietor, partnership, and total. I use the "total" employment size band (all sizes aggregated). The 2025 data are excluded as they appear incomplete (zero counts in the extract).

Variable Definitions.

- **Companies**: Count of enterprises with legal status "Company (including building society)" in a given LA-sector-year cell.

- **Treated**: Indicator equal to 1 for SIC codes 62, 70, 71, and 78.

- **Post-2017**: Indicator equal to 1 for years 2017 and later.

- **Post-2021**: Indicator equal to 1 for years 2021 and later.

- **Company share**: Ratio of companies to total enterprises in a given cell.

B. Identification Appendix

Pre-Trend Placebo. To test for differential pre-trends, I estimate a placebo specification on the 2016–2018 subsample with a fake treatment date at 2018. The coefficient is -0.027 ($p = 0.26$), confirming no differential trend prior to any reform.

COVID Placebo. The private sector reform was delayed from April 2020 to April 2021 due to COVID-19. If the reform—rather than the pandemic—drives the decline, the effect should appear in 2021, not 2020. Testing Treated $\times$ Post-2020 on the 2016–2020 subsample yields a coefficient of -0.040 ($p = 0.32$), confirming no effect during the delay year.

Alternative Control Groups. Excluding SIC 69 (legal/accounting, which may have partial PSC exposure) strengthens the Post-2021 estimate to -0.225 ($p = 0.041$). Using only SIC 56 (food and beverage) as the control yields -0.319 ($p = 0.011$), confirming robustness to control group selection.

C. Robustness Appendix

Levels Specification. Estimating the model in levels rather than logs yields a Post-2021 coefficient of -72.0 companies per LA-sector cell ($p = 0.017$). Multiplied across 406 LAs and 4 treated sectors, this implies approximately 29,000 dissolved companies nationally.

Inference with Few Clusters. With 8 sector clusters (4 treated, 4 control), standard cluster-robust standard errors may over-reject. I report three approaches: (1) sector-clustered SEs (most conservative, $p = 0.053$); (2) LA-clustered SEs (406 clusters, $p < 0.001$); and (3) two-way sector $\times$ LA clustering ($p = 0.042$). The treatment varies at the sector-time level, making sector the appropriate clustering dimension, but the consistency across clustering approaches is reassuring.

D. Standardized Effect Sizes

Table 6: Standardized Effect Sizes: Post-2021 Private Sector Reform

Outcome	$\hat{\beta}$	SE	SD(Y)	SDE	SE(SDE)	Classification
log(Companies)	-0.1930	0.0832	1.1613	-0.1662	0.0716	Large negative
log(Sole Proprietors)	0.0597	0.0630	1.5028	0.0397	0.0419	Small positive
log(Total Enterprises)	-0.1138	0.0634	1.1353	-0.1002	0.0559	Moderate negative
Company Share	-0.0476	0.0170	0.1876	-0.2538	0.0908	Large negative

Notes: Standardized effect sizes for the April 2021 private sector IR35 off-payroll reform. SDE $= \hat{\beta}/\text{SD}(Y)$, where SD($Y$) is the pre-reform (2016) cross-sectional standard deviation. Research question: Does shifting tax status determination from contractors to clients cause the dissolution of personal service companies? Data: NOMIS UK Business Counts, 406 Local Authorities $\times$ 8 SIC sectors $\times$ 9 years (2016–2024). Method: sector $\times$ time DiD with LA $\times$ year FE, SIC-clustered SEs. $N = 29,232$. Treatment: 4 high-PSC sectors (binary). Classification labels refer to the magnitude of the standardized point estimate, not to statistical significance. "Null" denotes a near-zero effect size ($|\text{SDE}| < 0.005$), not a failure to reject a null hypothesis.