Firm lifecycles and the choice of legal form

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How/why do firm lifecycles differ?

- Three big questions:
  - What are the **business lifecycle experiences** (turnover, employment) of UK firms?
  - How are they related to firms' **endogenous choices** of industry, legal form, management practices, geographical footprint, etc.?
  - What is the effect of the **legal and economic environment** on those choices and the resulting composition of the UK business population?

- This matters:
  - For our understanding of business dynamism, productivity and regional trends (Mason, O'Mahoney and Riley, 2018; Decker et al., 2020)
  - For policy (why do some firms grow and others not? What is the effect of policy reforms?).

Getting the terms right

Concept	Definition
Legal Form	Legal status recorded in the IDBR: sole proprietor, partnership, company, other legal status.
Incorporation	Changing the legal status to company
Legal-form Switchers	Businesses that incorporate
Company	A legal status. Not the same as enterprise/business.
Multi-Site	Businesses that have more than one active local unit
Multi-Industry	Businesses with activity in more than one SIC code
Industry Switchers	Businesses that change industry at a section level at some point during their lifecycle.

Systematic variation across firms

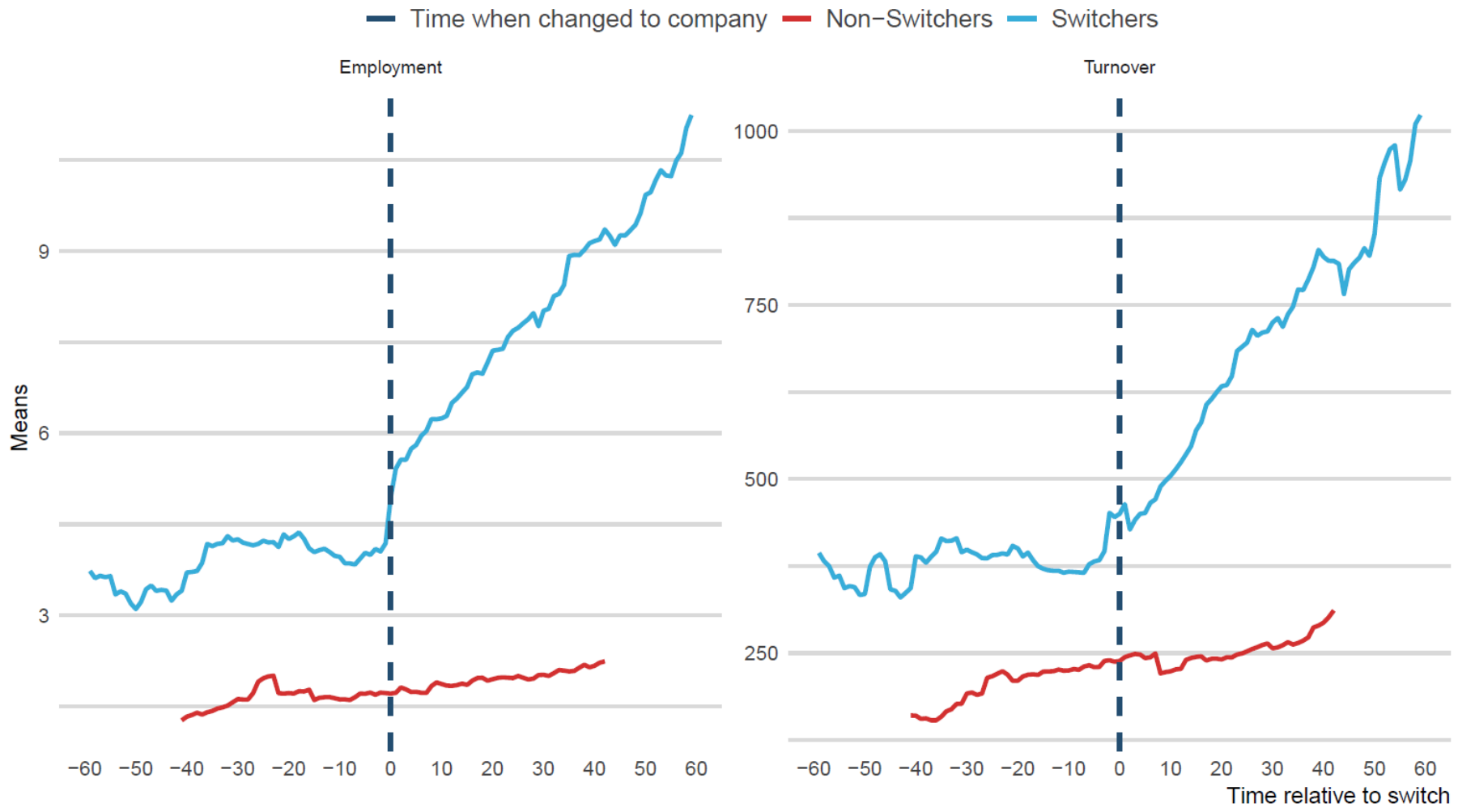
Today we show early evidence of persistent differences in business lifecycles:

- We identify a **hierarchy of five clusters** of firm choices and outcomes.
- **Corporations** outperform other legal forms.

We then zoom in on the choice of legal form and show:

- Incorporation leads to **differential turnover and employment growth,** multi-site activity and differential survival.
- Evidence of both **selection** and **incorporation effect**.

The effect of incorporation: a teaser

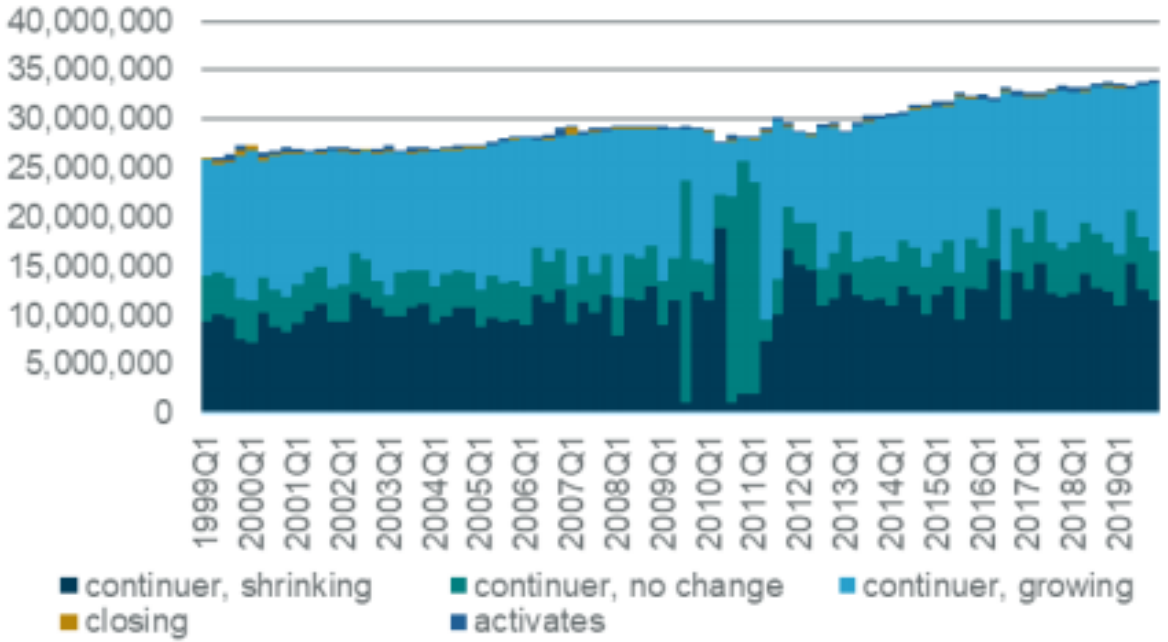


Data

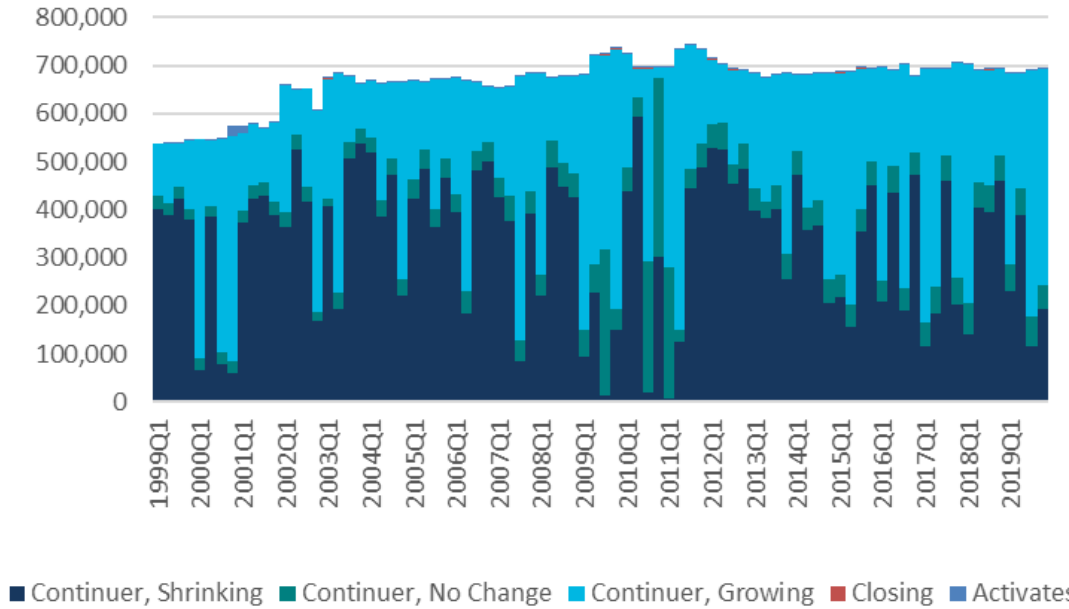
- We use a random sample of 40,000 enterprises taken from the Longitudinal Business Database (LBD) developed by ONS (Lui et al., 2020).
- LBD builds a proper longitudinal link of business units using IDBR quarterly snapshots and applies criteria for economic activity.
- Employment figures are mainly from IDBR PAYE tables
- Turnover figures come from IDBR and are mainly from ABS.

Comparing sample and population

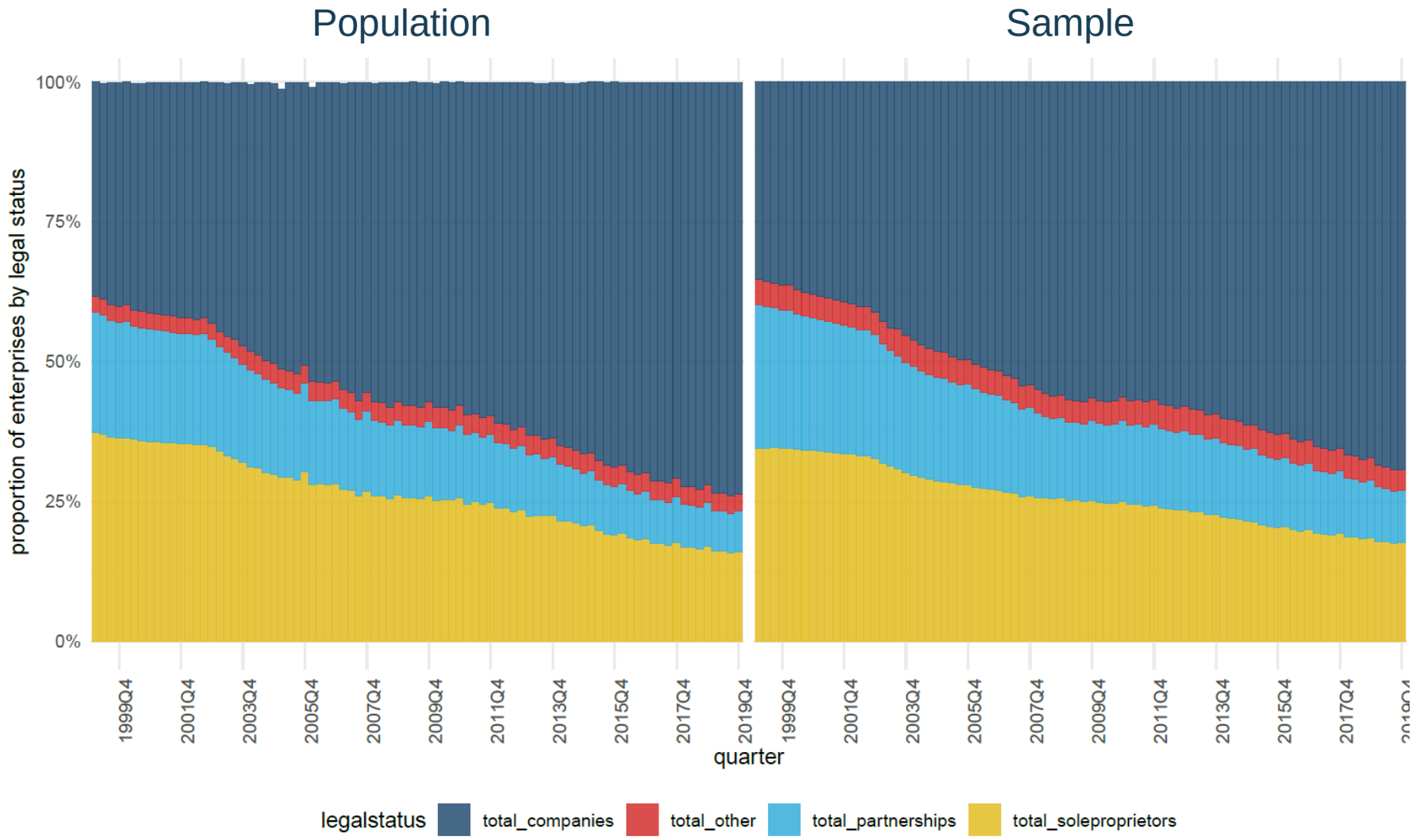
Employment by transition status – Population



Employment by transition status – Sample



Comparing sample and population



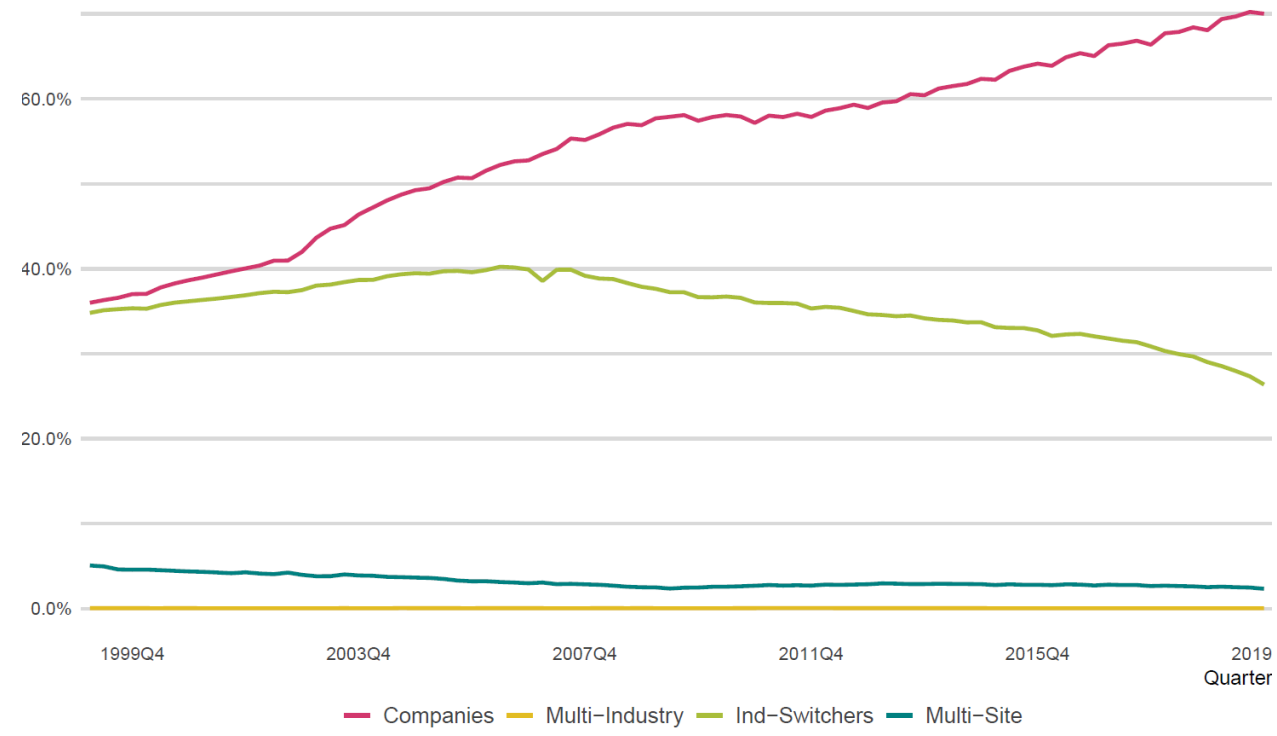
A road map

- Enterprise Lifecycles
  - Descriptive Statistics
  - Cluster Analysis
- Legal Form
  - Descriptive Statistics
  - Pooled Regressions
- Incorporation Effect
  - Fixed-Effects Regressions

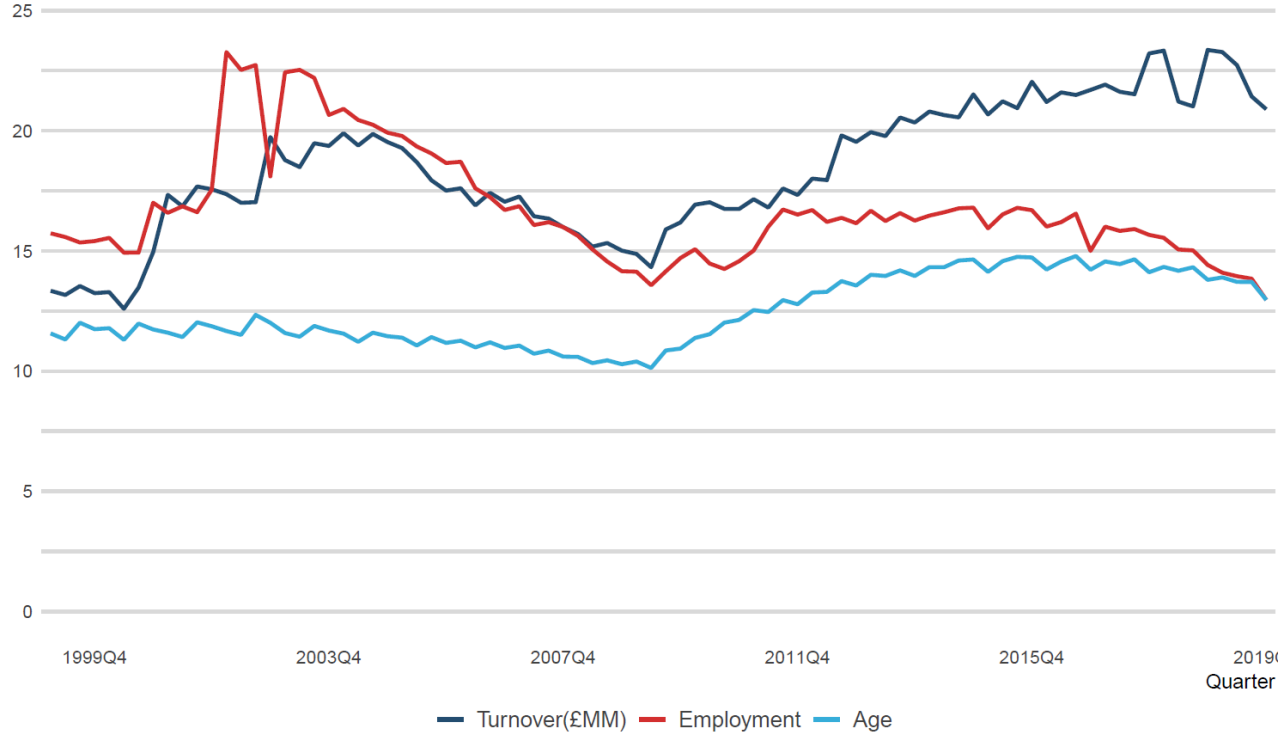
Enterprise Lifecycles

Growing number of companies

Choices



Outcomes



Identifying clusters of firm choices

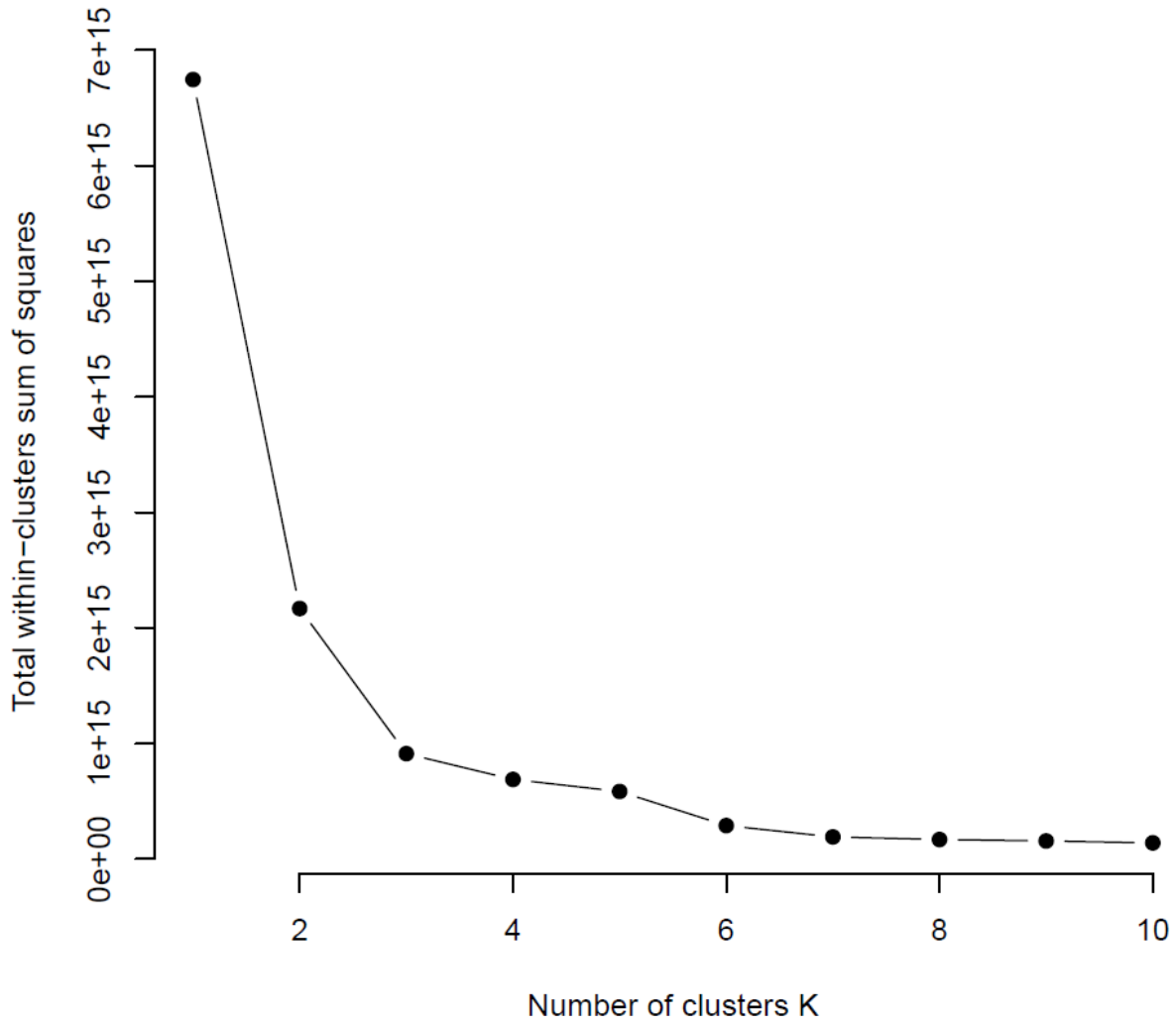
K-means

$$\underset{\mathbf{S}}{\operatorname{argmin}} \sum_{i=1}^{k} \sum_{x \in S_i} \|x - \mu_i\|^2$$

Number of clusters: 5

Clustering variables:

- Turnover
- Employment
- Age
- Company
- Multi-Industry
- Multi-Site



These decisions are correlated

Clustering Variables

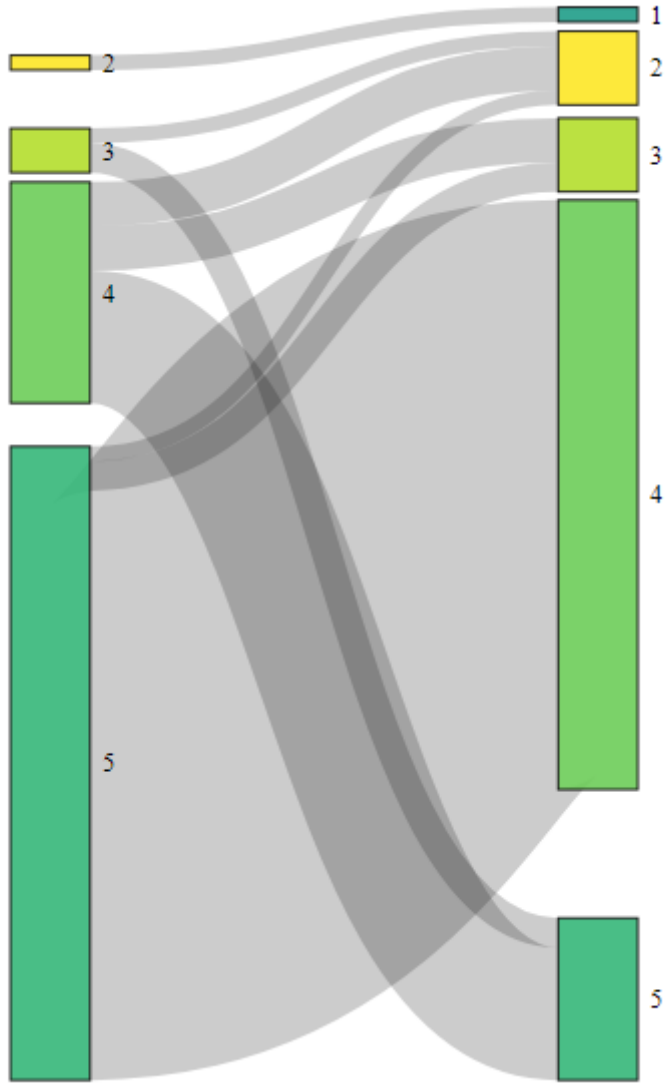
Cluster	Turnover (000s)	Emp	Age (years)	Company	Multi-Industry	Multi-Site
1	£65,591	6,855	14	92%	61%	96%
2	£22,813	74,381	26.1	81%	11%	97%
3	£10,077	24,319	26.4	86%	19%	96%
4	£1,998	3,138	23.7	76%	10%	75%
5	£8	10	12.5	56%	0%	3%

Other variables in each cluster

Legal – Form Switchers	Industry Switchers	Number of Businesses
12%	72%	101
0%	30%	236
3%	25%	461
0%	48%	3,095
8%	35%	1,640,771

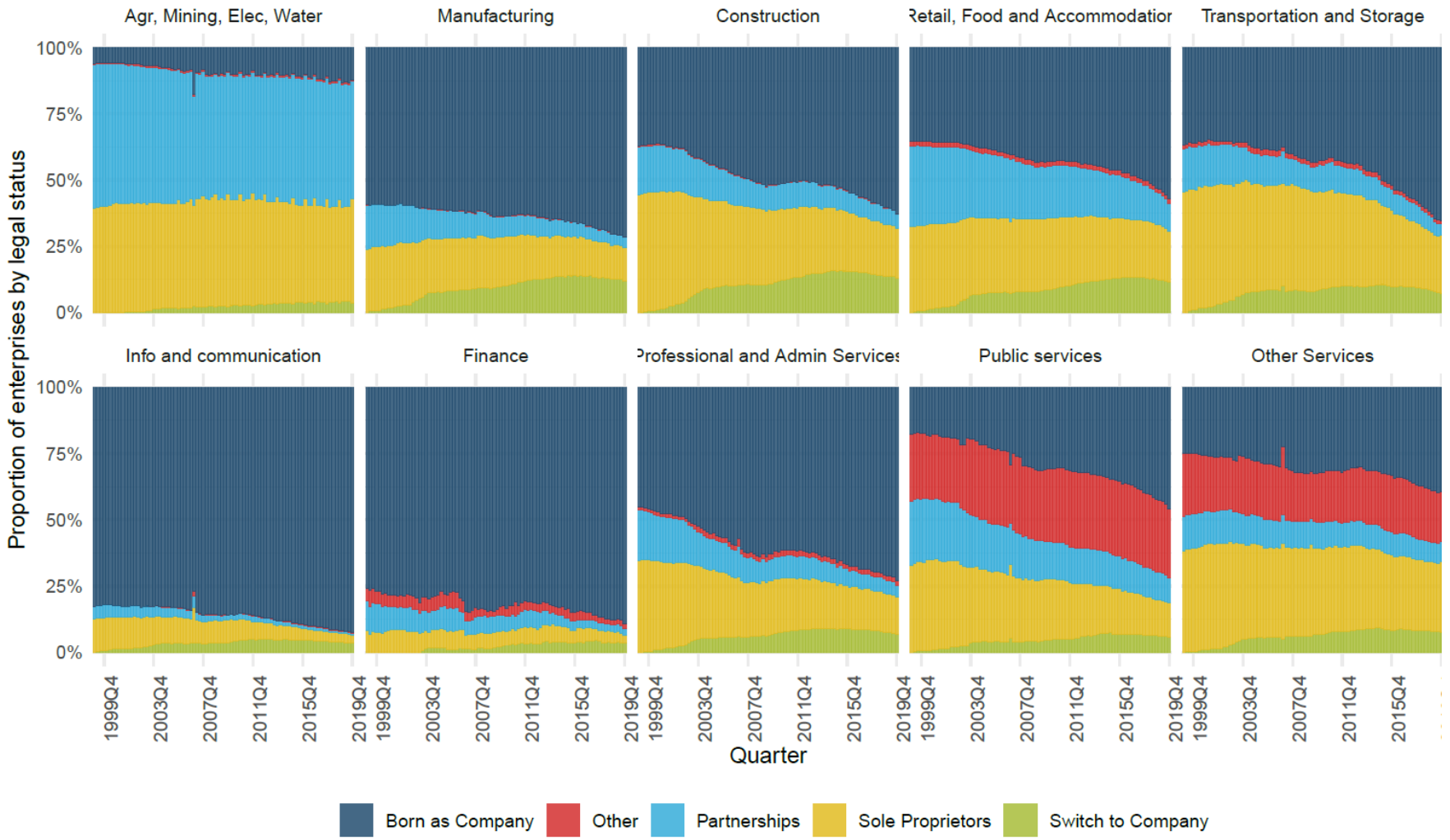
Cluster switching

Initial Cluster	Final Cluster	Number of Businesses
5	4	40
4	5	9
4	2	3
4	3	3
5	3	2

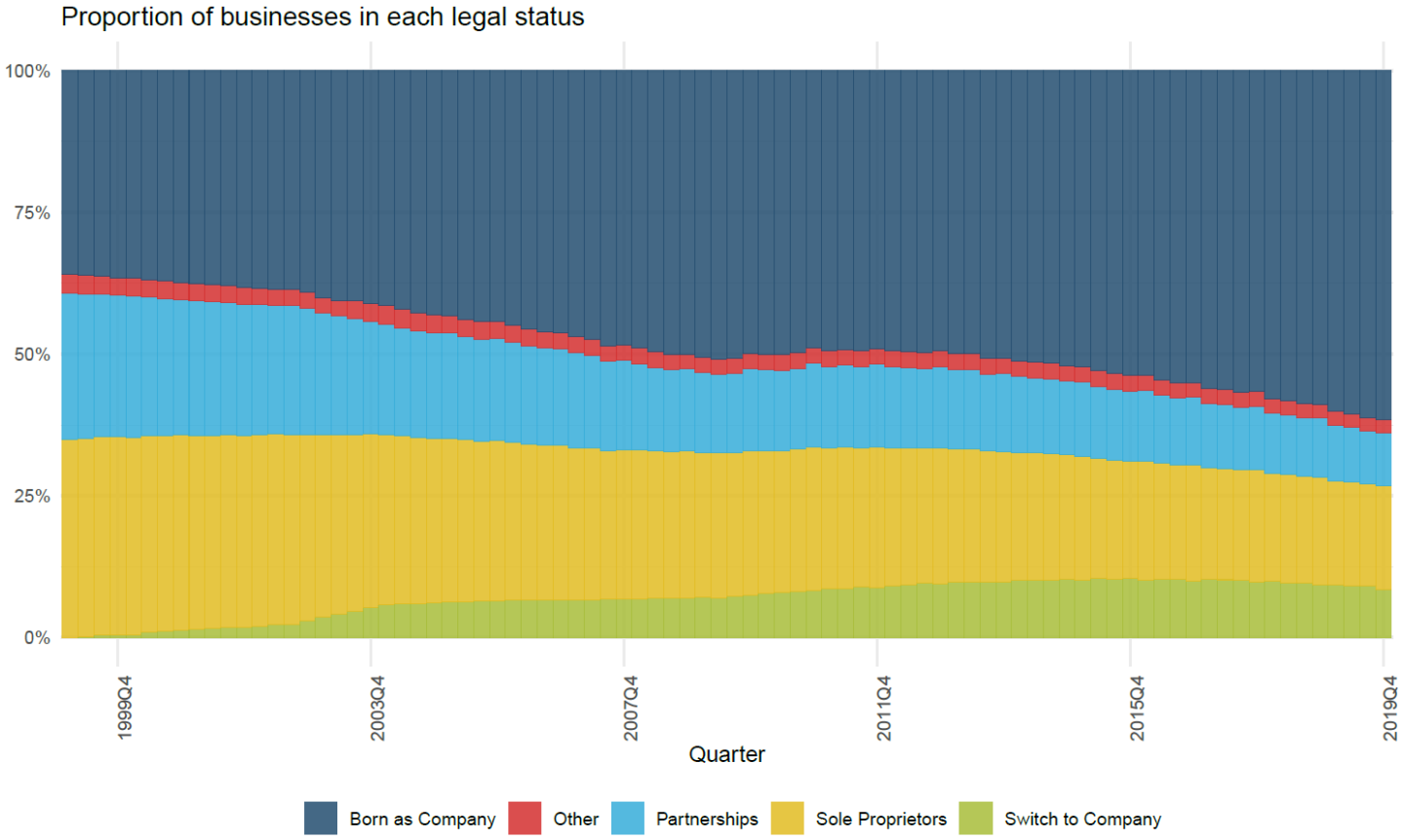


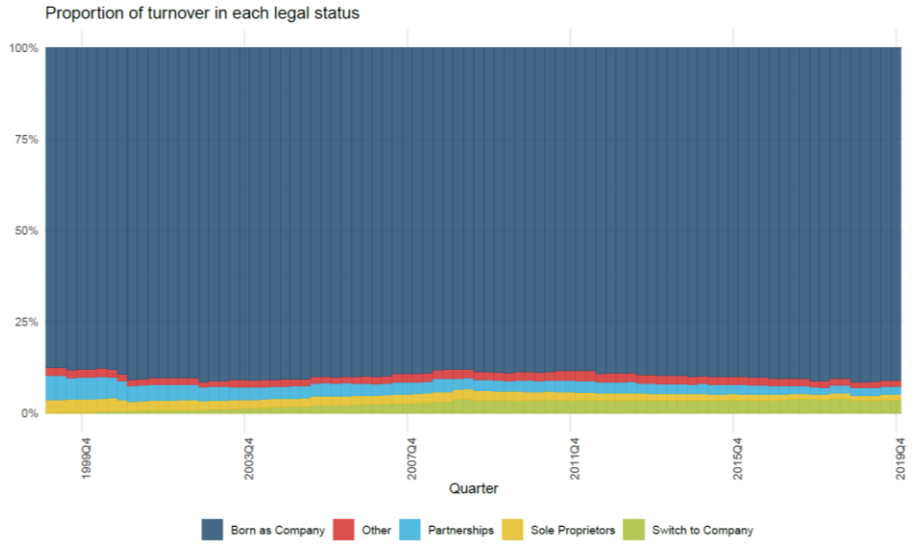
Legal Form

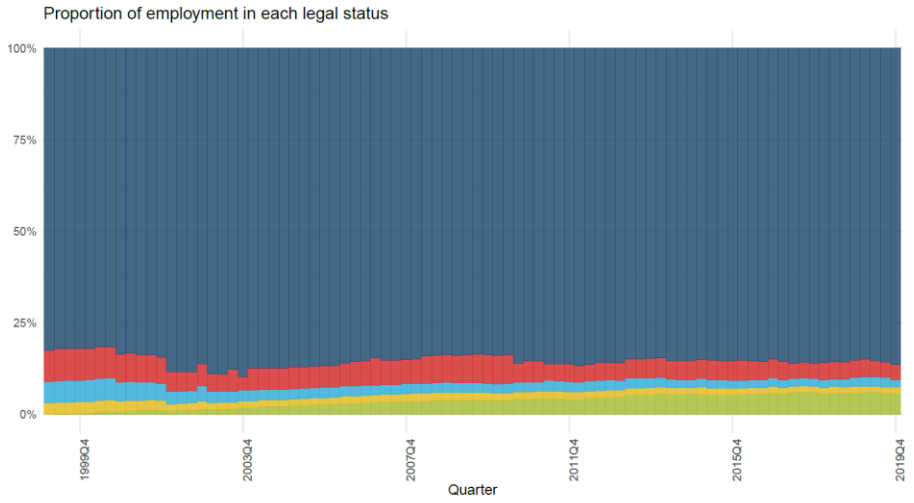
Legal forms vary a lot by industry



Companies dominate revenue





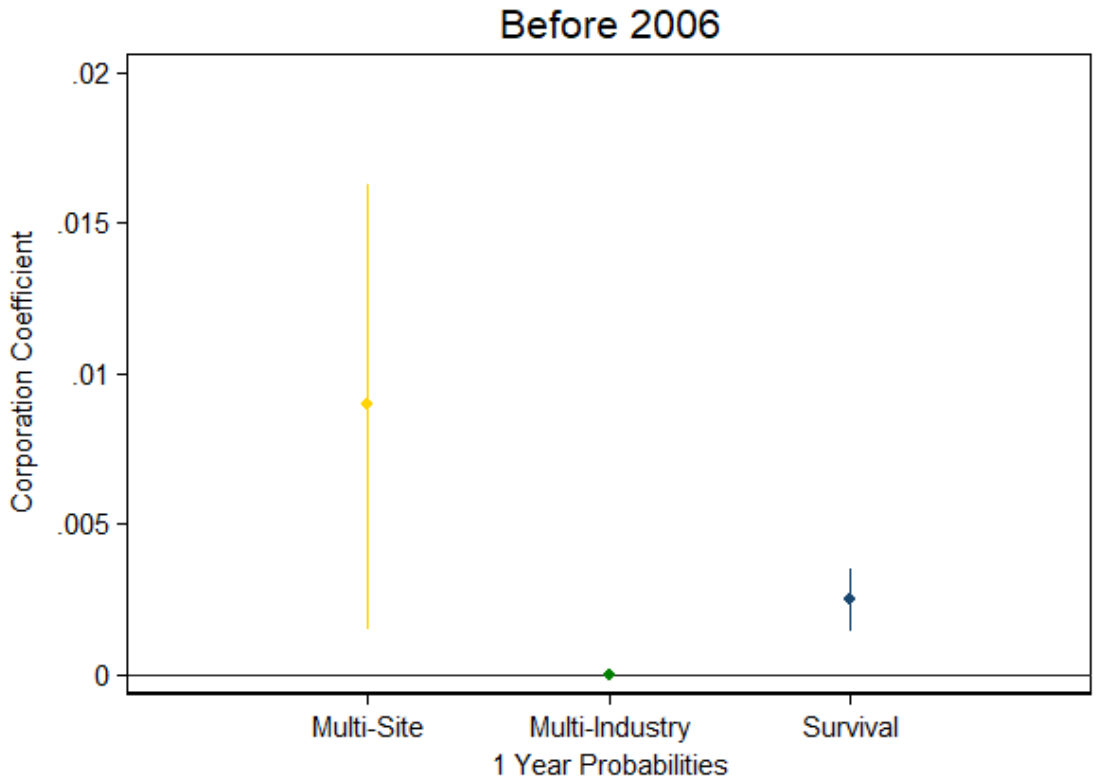


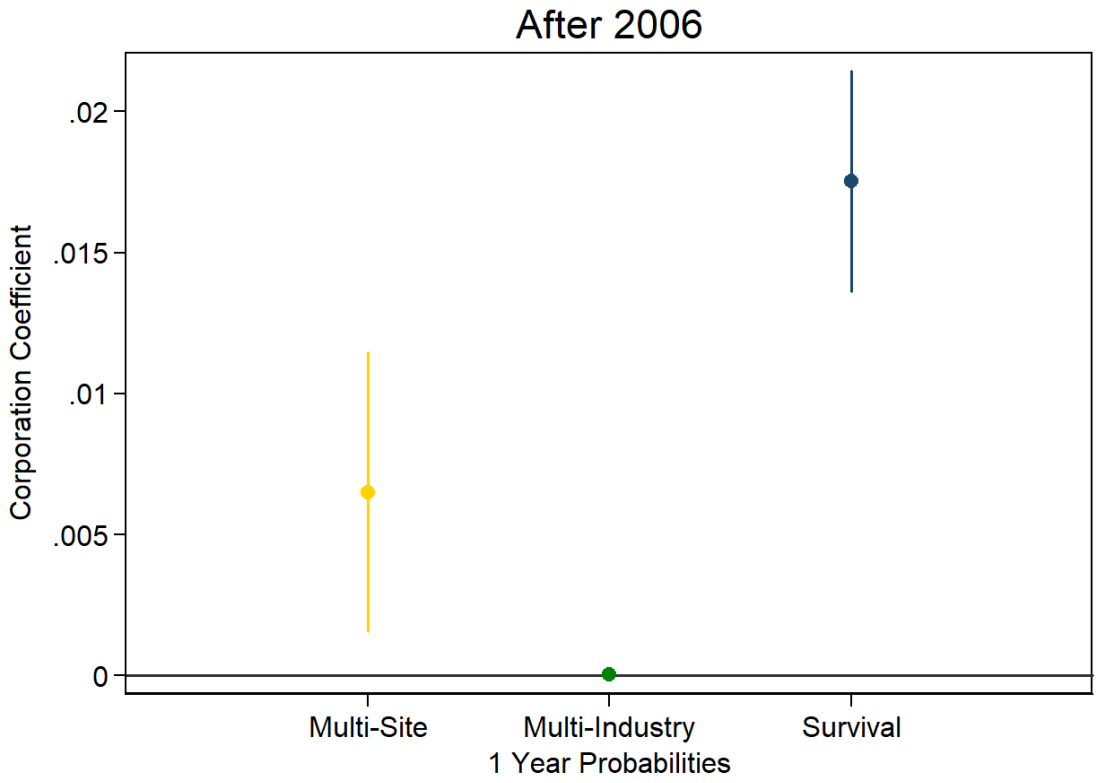
Pooled OLS regressions

	(1) log_turnover	(2) employment	(3) reactivation
Corp	0.914***	3.553*	-0.0968***
	(0.0139)	(2.123)	(0.0191)
Partnership	0.419***	1.084***	0.00214***
	(0.00814)	(0.0603)	(0.000517)
Other Legal	0.385***	18.02***	0.00480***
	(0.0143)	(1.296)	(0.00105)
Constant	3.354***	-0.429	0.171***
	(0.0450)	(1.814)	(0.0200)
Observations	1,659,828	1,659,828	1,659,828
R-squared	0.188	0.062	0.116
Industry	YES	YES	YES
Quarter	YES	YES	YES
Age	YES	YES	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

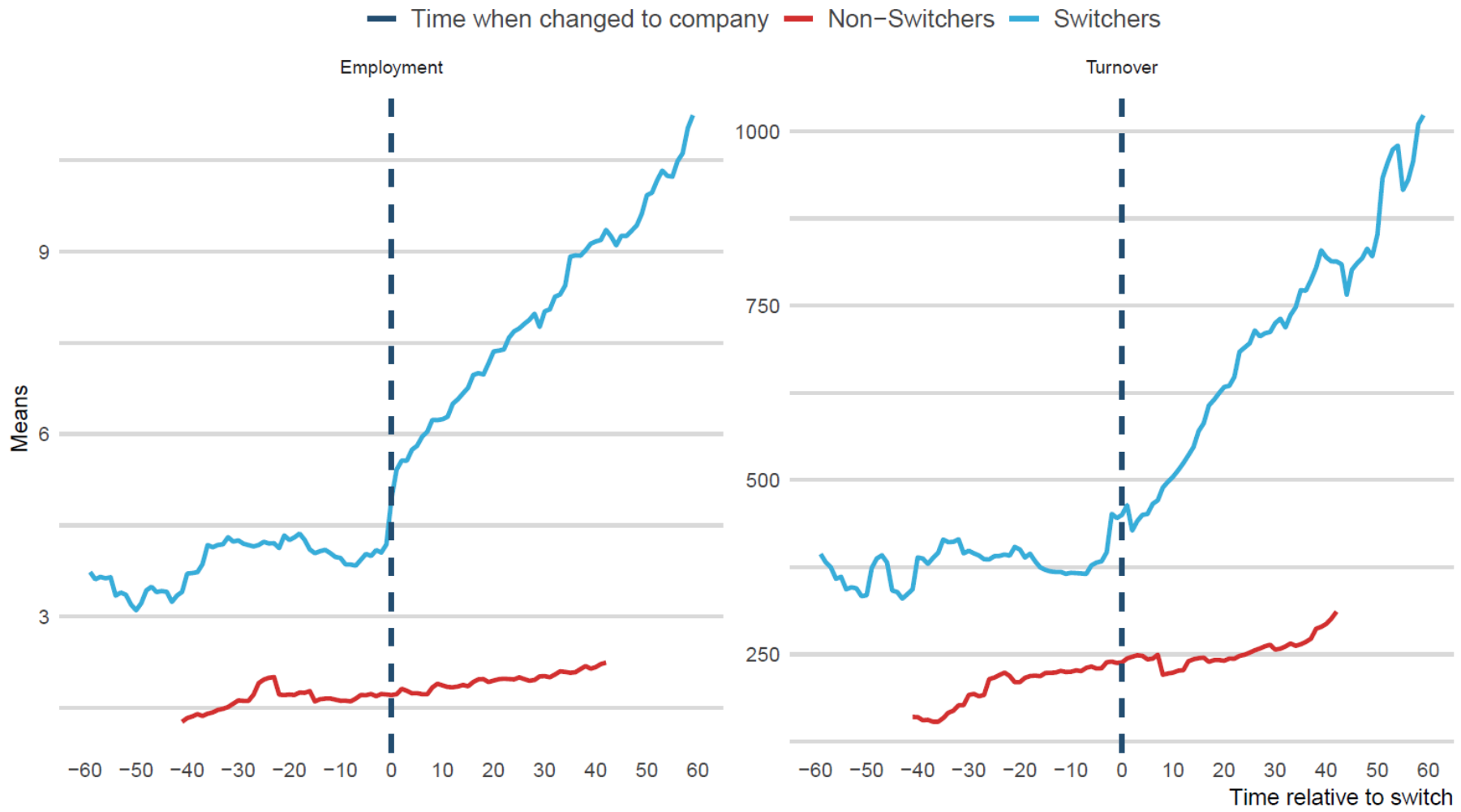
Pre and post 2006 Companies Act





Incorporation Effect

Performance of switchers pre/post



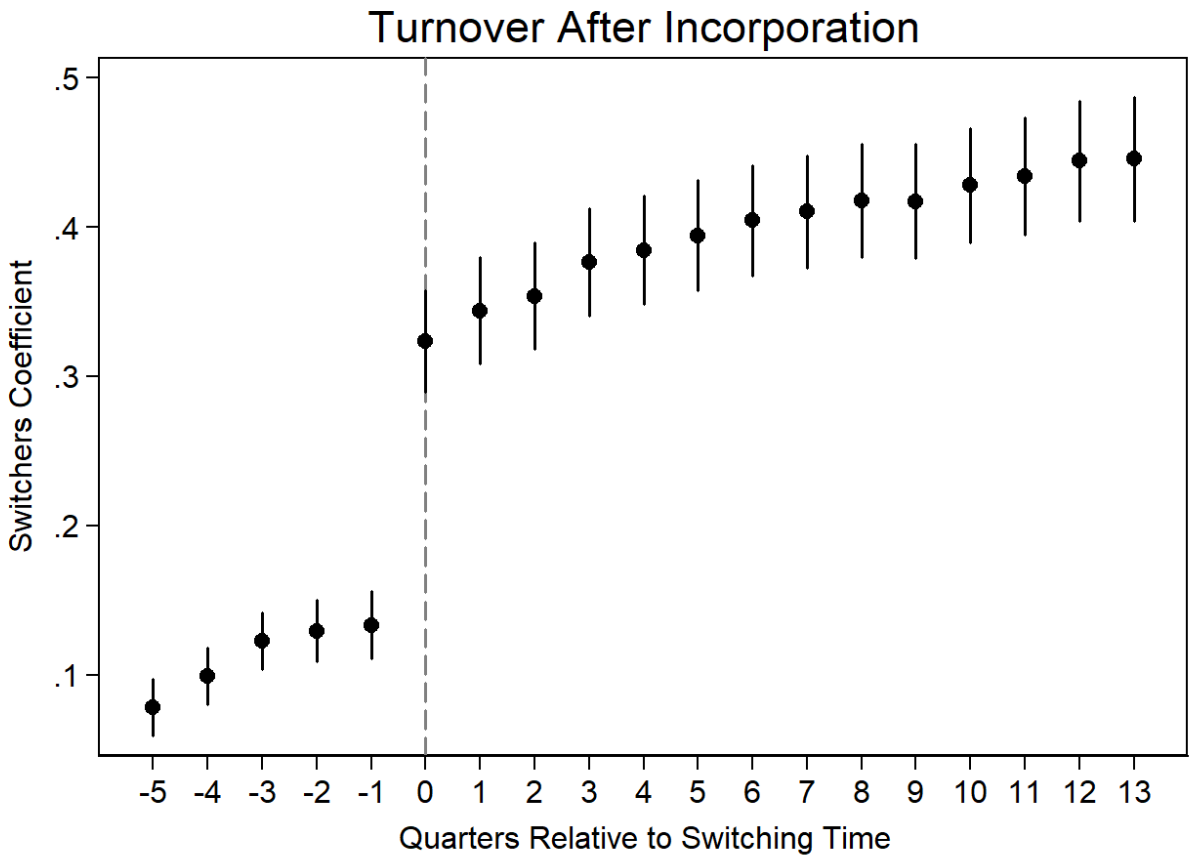
Switchers regression specification

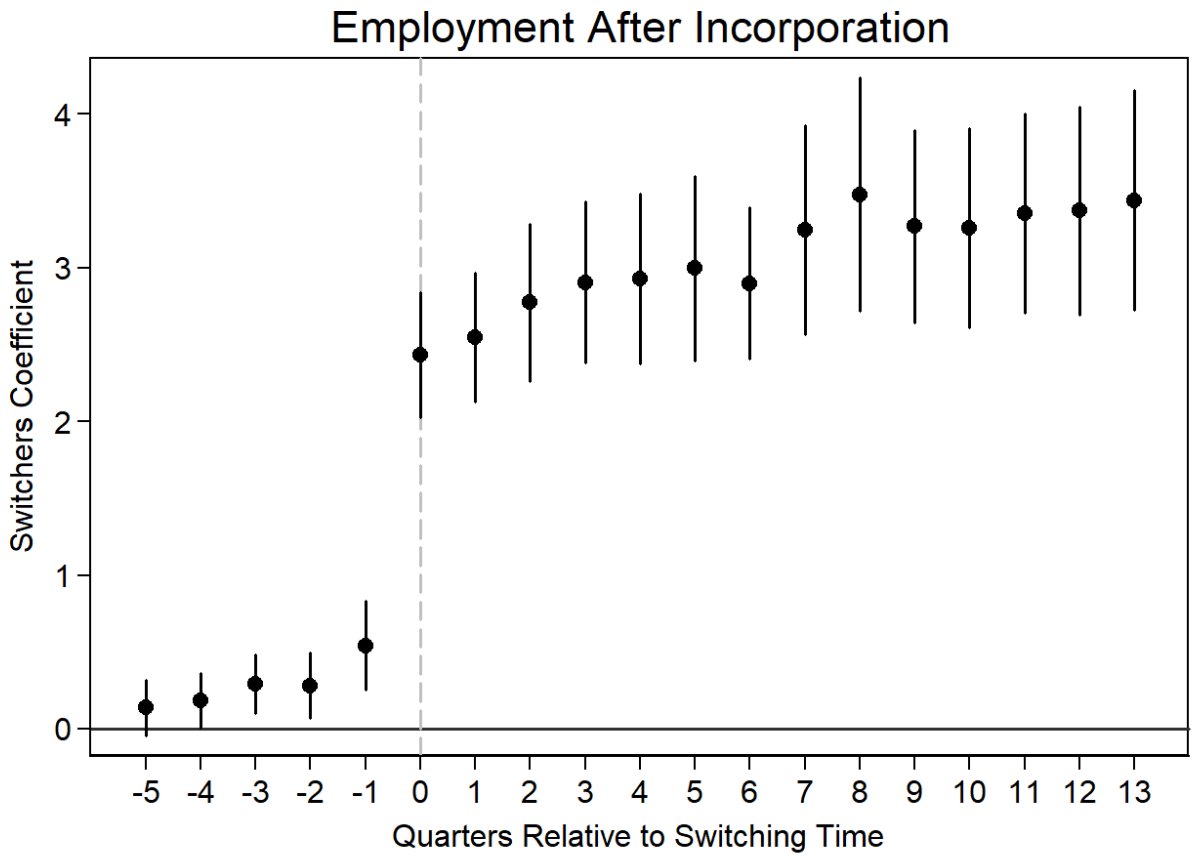
$$y_{its} = \beta switchers_{its}^{n} + \gamma X_{its} + \delta_t + \lambda_s + \tau_i + \varepsilon_{its}$$

- y_{its} outcome for business *i* in an industry *s* and quarter *t.*
- $switchers_{its}^{n}$ is a dummy variable that indicates a company *n* quarters after changing legal status
- X_{its} controls include: $legal_{its}, age_{its}$
- τ_i Firm fixed effects
- δ_t Time fixed effects
- λ_s Industry fixed effects
- ε_{its} robust standard errors

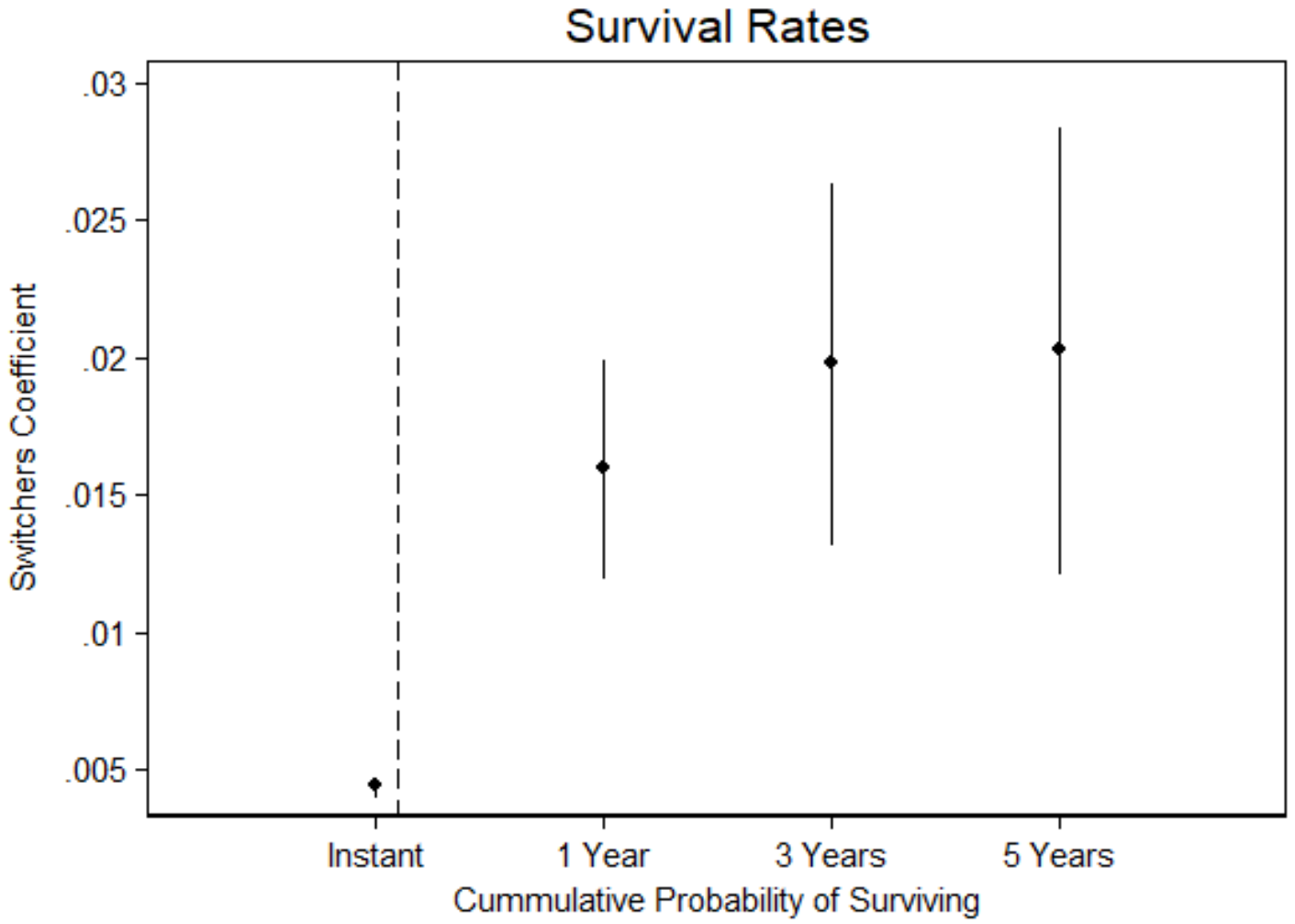
(Based on Gregg, 2020)

Turnover and employment rise

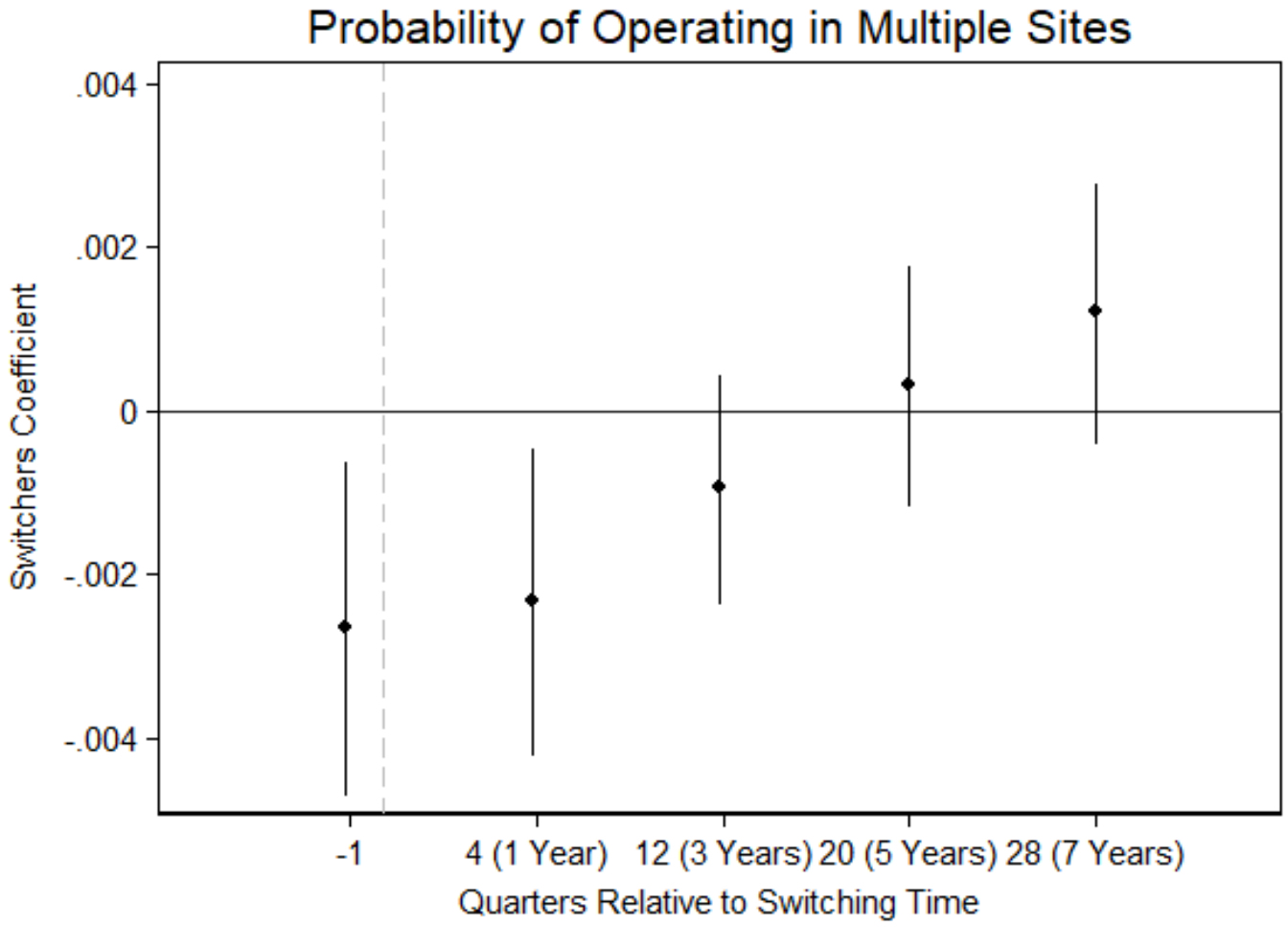




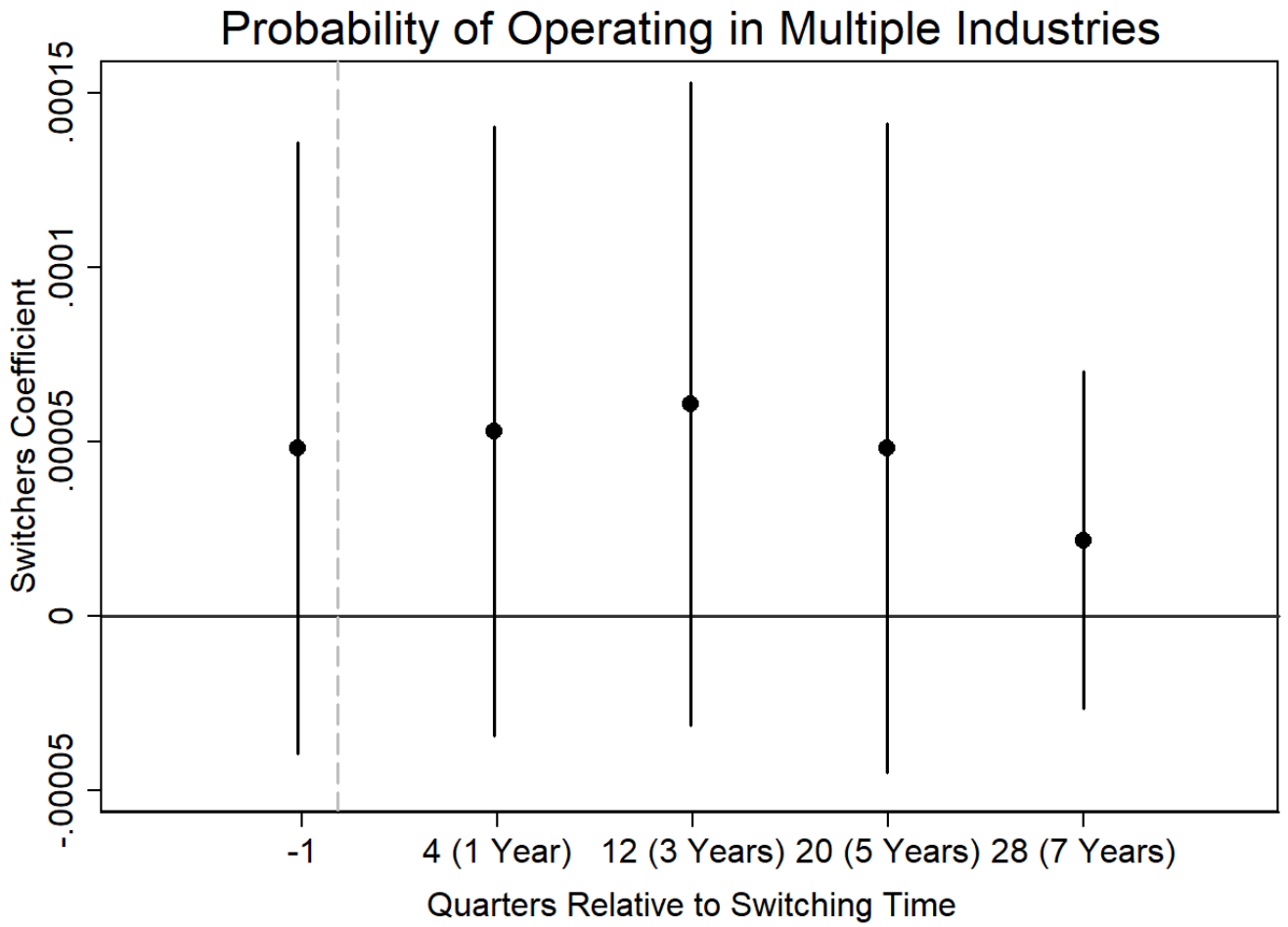
Switchers have higher survival probabilities



Switchers catch up in terms of multi-site activity



No effect on multi-industry activity



Final remarks

What we did so far:

- Started from descriptive statistics, zooming in on a pure incorporation effect (but no clean identification – interested in endogenous choices).

What we find:

- **Hierarchy of distinct clusters** of firm choices and outcomes.
- **Corporations do better** in terms of turnover and survival.
- **Incorporation leads to turnover and employment growth**, and increased survival rates.
- **Selection effect** (switchers different before) but also **incorporation effect**.

Next steps

This project:

- Investigate the effect of **regulatory, legal and macroeconomic factors**.
- Link to LU level to **refine measures of multi-industry** and multi-site activity.

Related work:

- Link ONS asset data to **explore asset accumulation** decisions.
- Link M&A data to **investigate the role of acquisitions** of growing businesses.

Thank you for your time.