Firm Composition Effects on Scaling

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1 Introduction

This analysis examines how firm workforce composition affects scaling patterns. We estimate:

$$\text{Growth}_{jt}^{k} = \beta_1 \text{Remote}_j \times \text{Post}_t + \beta_2 \text{Post}_t \times \text{Startup}_j + \beta_3 \text{Remote}_j \times \text{Post}_t \times \text{Startup}_j + \alpha_j + \delta_t + \varepsilon_{jt} \quad (1)$$

where k indexes either job roles (Admin, Engineer, etc.) or seniority levels (1-4), and:

- Growth_{jt}^{k} is the percentage growth rate for category k in firm j at time t

- Remote_j indicates remote-first firms

- Post_t indicates post-COVID periods

- Startup_j indicates startup firms

- α_j are firm fixed effects

- δ_t are time fixed effects

We instrument for the remote work variables using pre-COVID remote job postings and industry remote work intensity.

2 Role Composition Effects

Table 1: Role Composition Effects on Firm Scaling

	(1) Admin	(2) Engineer	(3) Finance	(4) Marketing	(5) Operations	(6) Sales	(7) Scientist
Panel A: OLS							
Remote × Post	0.00	-0.01***	0.00*	-0.00**	-0.00	-0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Remote × Post × Startup	0.00	-0.00	-0.00	-0.00	-0.00	0.01	-0.01
	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Panel B: IV							
Remote × Post	-0.00	-0.02***	-0.00	-0.00	-0.00***	0.00	0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Remote × Post × Startup	-0.03	-0.11*	0.03	0.12**	-0.01	0.01	-0.01
	(0.02)	(0.05)	(0.03)	(0.06)	(0.02)	(0.03)	(0.03)
N	19,793	22,845	18,334	20,672	16,866	23,633	11,033
KP rk Wald F	10.1	8.2	5.8	5.3	5.3	13.3	9.1

Notes: Firm-level regressions with firm and time fixed effects. Dependent variable is share of role-specific employment in the firm workforce. Remote is an indicator for remote-first firms. Post indicates post-COVID periods. Startup indicates young, high-growth firms. Standard errors clustered by firm in parentheses. * $p<0.10$, ** $p<0.05$, *** $p<0.01$.

3   Seniority Composition Effects

Table 2: Seniority Composition Effects on Firm Scaling

	(1) Level 1	(2) Level 2	(3) Level 3	(4) Level 4
Panel A: OLS				
Remote × Post	-0.00***	0.00***	-0.00*	-0.00***
	(0.00)	(0.00)	(0.00)	(0.00)
Remote × Post × Startup	0.00	-0.01	0.00	-0.01
	(0.01)	(0.01)	(0.01)	(0.01)
Panel B: IV				
Remote × Post	-0.00	0.01***	-0.00	-0.01***
	(0.00)	(0.00)	(0.00)	(0.00)
Remote × Post × Startup	-0.08**	-0.03	0.04	-0.03
	(0.03)	(0.03)	(0.03)	(0.03)
N	22,643	26,097	21,959	21,199
KP rk Wald F	10.5	16.3	8.7	9.2

Notes: Firm-level regressions with firm and time fixed effects. Dependent variable is share of seniority-specific employment in the firm workforce. Seniority levels: 1 (most junior) to 4 (most senior). Remote is an indicator for remote-first firms. Post indicates post-COVID periods. Startup indicates young, high-growth firms. Standard errors clustered by firm in parentheses. * $p<0.10$, ** $p<0.05$, *** $p<0.01$.