Workforce Composition and Remote Work Productivity

August 20, 2025

1 Introduction

Productivity regressions with composition share levels as controls. Tests whether remote productivity effects persist after controlling for workforce composition levels.

2 Role Composition Effects

Table 1: Role Composition Effects on Remote Work Productivity

	Dep Var: Total Productivity (Contributions Q100)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: OLS								
Remote × Post	-1.23**	-1.23**	-1.26**	-1.18**	-0.99**	-1.01**	-1.23**	-1.18**
	(0.50)	(0.50)	(0.50)	(0.50)	(0.50)	(0.50)	(0.50)	(0.50)
Remote × Post × Startup	6.21***	6.25***	6.48***	6.35***	5.78***	6.05***	6.21***	6.20***
	(1.27)	(1.27)	(1.29)	(1.29)	(1.28)	(1.30)	(1.27)	(1.28)
Panel B: IV								
Remote × Post	-9.26**	-9.13**	-7.32**	-9.71**	-9.28**	-7.99	-8.41**	-10.31**
	(4.01)	(4.02)	(3.24)	(3.86)	(4.08)	(7.80)	(3.53)	(4.85)
Remote × Post × Startup	12.45**	12.96**	13.21**	13.42**	11.65**	10.52	11.64**	13.85**
	(5.39)	(5.39)	(5.45)	(5.51)	(5.63)	(9.46)	(5.00)	(6.09)
N	231,305	231,305	231,305	231,305	231,305	231,305	231,305	231,305
KP rk Wald F	123.4	123.1	198.8	132.9	122.2	27.9	171.0	87.8
Admin control	-	✓	-	-	-	-	-	-
Engineer control	-	-	✓	-	-	-	-	-
Finance control	-	-	-	✓	-	-	-	-
Marketing control	-	-	-	-	✓	-	-	-
Operations control	-	-	-	-	-	✓	-	-
Sales control	-	-	-	-	-	-	✓	-
Scientist control	-	-	-	-	-	-	-	✓

Notes: The dependent variable is user productivity measured as total contributions (GitHub commits, pull requests, issues, and code reviews), winsorized at the 100th percentile. All specifications include worker-firm and time fixed effects. Composition controls are role-specific share interactions (COVID × role share × startup). Standard errors clustered by user in parentheses. * p<0.10, ** p<0.05, *** p<0.01.

3 Seniority Composition Effects

Table 2: Seniority Composition Effects on Remote Work Productivity

	Dep Var: Total Productivity (Contributions Q100)				
	(1)	(2)	(3)	(4)	(5)
Panel A: OLS					
Remote × Post	-1.23**	-0.72	-0.76	-0.69	-0.64
	(0.50)	(0.49)	(0.48)	(0.49)	(0.48)
Remote × Post × Startup	6.21***	6.30***	6.46***	6.46***	6.08***
	(1.27)	(1.30)	(1.27)	(1.27)	(1.30)
Panel B: IV					
Remote × Post	-9.26**	-10.59**	-7.01*	-8.83	-9.52***
	(4.01)	(4.88)	(4.00)	(5.75)	(3.17)
Remote × Post × Startup	12.45**	18.47***	14.67***	14.59**	13.78***
	(5.39)	(6.87)	(5.64)	(6.64)	(5.08)
N	231,305	165,392	169,466	166,528	165,062
KP rk Wald F	123.4	86.5	118.3	60.3	210.5
Level 1 control	-	✓	-	-	-
Level 2 control	-	-	✓	-	-
Level 3 control	-	-	-	✓	-
Level 4 control	-	-	-	-	✓

Notes: The dependent variable is user productivity measured as total contributions (GitHub commits, pull requests, issues, and code reviews), winsorized at the 100th percentile. All specifications include worker-firm and time fixed effects. Composition controls are seniority-specific share interactions (COVID × seniority share × startup). Standard errors clustered by user in parentheses. * $p<0.10$, ** $p<0.05$, *** $p<0.01$.